Pregnancy Risk Assessment Monitoring System

PRAMS Report 2002

Michigan Department of Community Health

MDCH

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Executive Summary

The Pregnancy Risk Assessment Monitoring System (PRAMS) is a population-based survey of a random sample of women who have given birth to a live-born infant in Michigan. The topics included in this survey were selected based on their relevance to maternal and infant morbidity and mortality. The following summary highlights important findings within the report:

- Of the 43.2% of women who indicated they had an unintended pregnancy, over three-quarters were mistimed
- Approximately 45.7% of women who delivered a live born infant reported using contraception prior to pregnancy
- Among the 7.1% of infants who were considered low birth weight (< 2,500 grams), 21.4% were very low birth weight (< 1,500 grams)
- "Did not know I was pregnant" and "Could not get an earlier appointment' were the most common barriers among the 22.6% of women who reported entering prenatal care after the first trimester
- Approximately 56.4% of women planned on breastfeeding their infant
- The most frequently cited reasons for the discontinuation of breastfeeding were "breast milk did not satisfy infant" at 32.5% and "thought not producing enough milk" at 31.7%
- About 4.5% of women indicated that they drank alcohol during their pregnancy
- Approximately 17.3% of women reported smoking in the last three months of their pregnancy
- Greater than 70% of women reported placing their infants to sleep on their back. Also, 21.3% of women stated that their infant always/almost always bed shared
- Among the 6.5% of women who reported experiencing physical abuse in the year prior to their pregnancy, the husband/partner was most likely to be named as the abuser 75.9% of the time
- About 15.1% of women were neither aware nor instructed by a health care provider about the benefits of folic acid. In addition, 53.6% of women indicated they consumed 'no multivitamin' the month prior to pregnancy
- Of the income eligible women in the sample, approximately 74.8% participated in WIC during their pregnancy

Introduction

The Michigan Pregnancy Risk Assessment Monitoring System (PRAMS) is an ongoing population-based survey of postpartum mothers who delivered live births in Michigan. PRAMS is part of a Centers for Disease Control and Prevention (CDC) initiative to reduce infant mortality, low birth weight, and other adverse birth outcomes by providing practical information for developing, implementing, and evaluating maternal and infant health intervention programs. This data is utilized to monitor improvement in both national and state pregnancy-related health objectives, including the increase of infants with positive birth outcomes. Furthermore, PRAMS is used to identify and monitor selected self-reported maternal behaviors and experiences that occur before, during, and after pregnancy among women who deliver live-born infants. This report covers a variety of topics, including low birthweight, contraceptive use, pregnancy intention, health insurance, prenatal care, breastfeeding, alcohol and tobacco use, violence against women, folic acid awareness, and WIC participation.

In 2002, over 2000 postpartum women were selected from a frame of eligible birth certificates to be surveyed. PRAMS is a combination mail/telephone survey. Women are contacted and surveyed initially via mail. If the woman does not respond to the original mailing, follow-ups included additional mailings and telephone contact.

Throughout this report, selected maternal and child health indicators are presented graphically with explanations. PRAMS data are intended to be representative of women whose pregnancies resulted in a live birth. Therefore, all results presented have been weighted to provide estimates that are reflective of Michigan women who had a live birth in 2002 (see Appendix I for further information on weighting). Since PRAMS only surveys women with a live birth, caution is advised when interpreting and generalizing the results to all pregnant women. Results with their 95% confidence intervals (CI) are also presented along with demographic characteristic breakdowns in appended tables.

Maternal Demographics

Definition:

Information about maternal demographic characteristics was obtained from both the birth certificate information and the PRAMS questionnaire. Maternal age, race/ethnicity, and marital status were obtained from the birth certificate. Information on pre-pregnancy insurance and income was obtained from the PRAMS questionnaire. Two questions regarding pre-pregnancy insurance status were asked to all respondents:

Question #1: Just before you got pregnant, did you have health insurance? (Do not count Medicaid)
_No
_Yes
Question #2: Just before you got pregnant, were you on Medicaid?
_No
_Yes

Women who answered 'Yes' to question #1 and 'No' to question #2 were classified as having private insurance prior to pregnancy. Women who answered 'Yes' to question #2 were classified as participating in Medicaid prior to pregnancy. Women who answered 'No' to both questions #1 and #2 were classified as having no insurance prior to pregnancy.

Results:

In Michigan 76% of women who delivered a live birth infant in 2002 were between the ages of 20-34 years old (Figure #1). Racial/ethnic minorities made up less than a quarter of the sample. The most prevalent minority was non-Hispanic Blacks (17.2%) followed by Hispanics (5.4%), and then Asian/Pacific Islanders (2.2%) (Figure #2). Less than 1% of women delivering during that time span were either American Indian/Alaskan Native or other racial/ethnic minority. Approximately 17.8% of women had less than a high school education (Figure #3). The majority of women (82.3%) had at least a high school education, with 27.8% having at least a college degree. In addition, more women (64.6%) were identified as being married (Figure #4). Also, prior to pregnancy, two-thirds (67. 2%) of women responded that they had private health insurance, 13.8% of women reported receiving Medicaid, and the remaining 19.0% were classified as being 'uninsured' (Figure #5).

Public Health Implications:

Half of the women delivering live births in Michigan have a high school diploma or less. This underscores the need for all organizations serving women of childbearing age to tailor all outreach efforts and materials to a very basic literacy level. One in five women who delivered in 2002 did not have health insurance prior to becoming pregnant. Access to care remains a challenging issue, and methods need to be developed to identify and refer women as soon as possible in their pregnancies. Ten percent of women delivering live births in Michigan are under the age of twenty, and fifty-two percent of the women are in their twenties. Therefore every opportunity should be made to provide these women with tailored educational messages about the importance of pre-conceptual health.

Reference Table: #1

Maternal Demographics

Figure 1:

Prevalence of maternal age,

2002 MI PRAMS

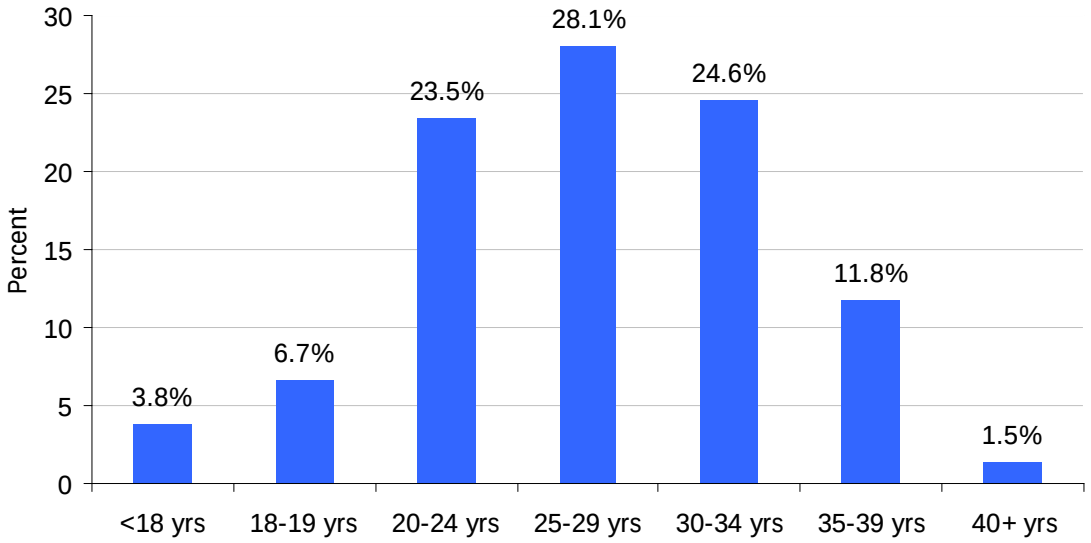
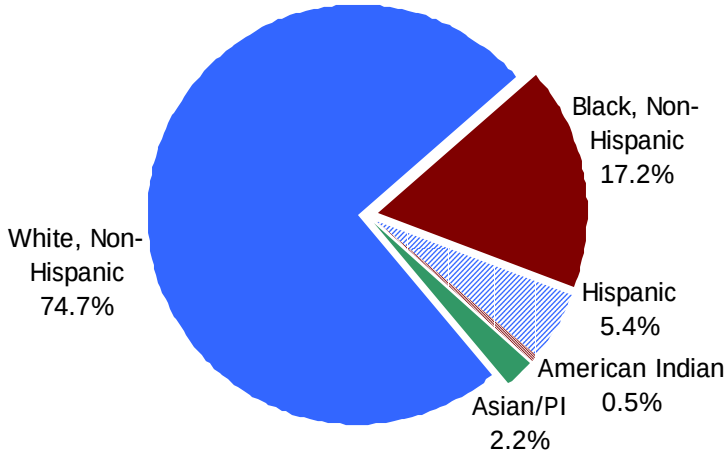


Figure 2:

Prevalence of maternal race/ethnicity,

2002 MI PRAMS



Maternal Demographics

Figure 3:

Prevalence of maternal education,

2002 MI PRAMS

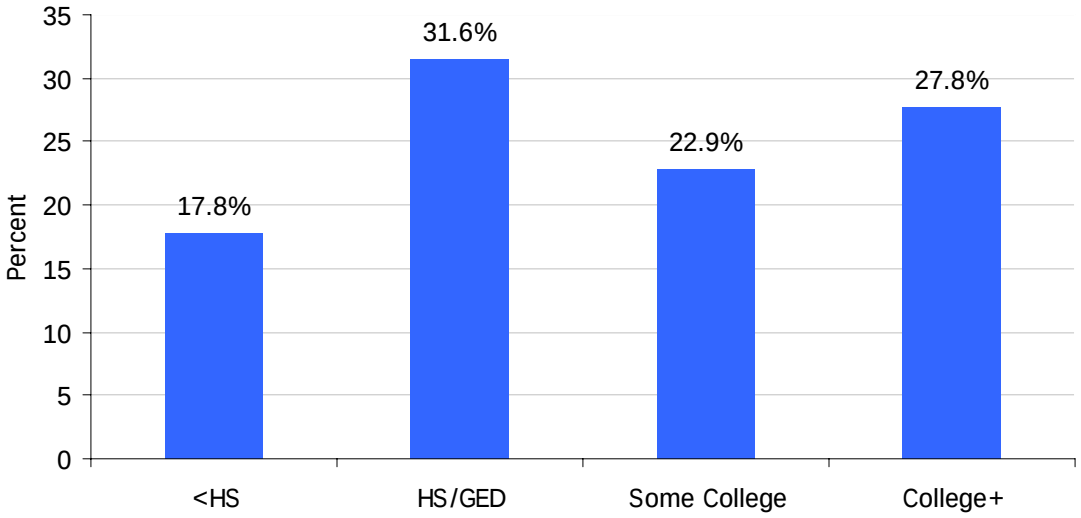
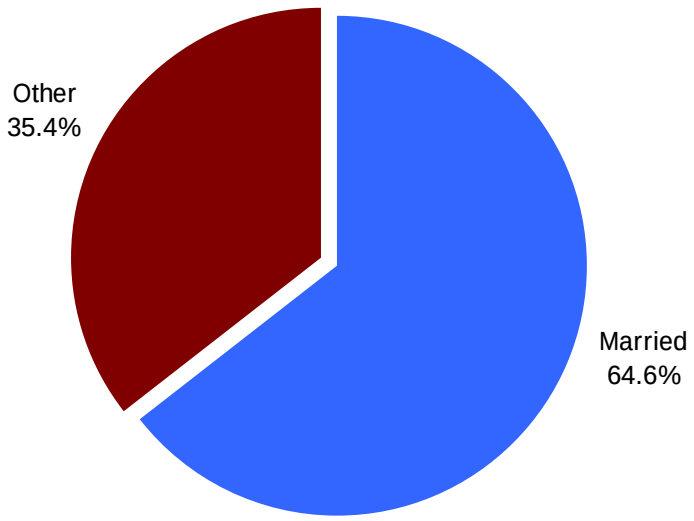


Figure 4:

Prevalence of marital status,

2002 MI PRAMS

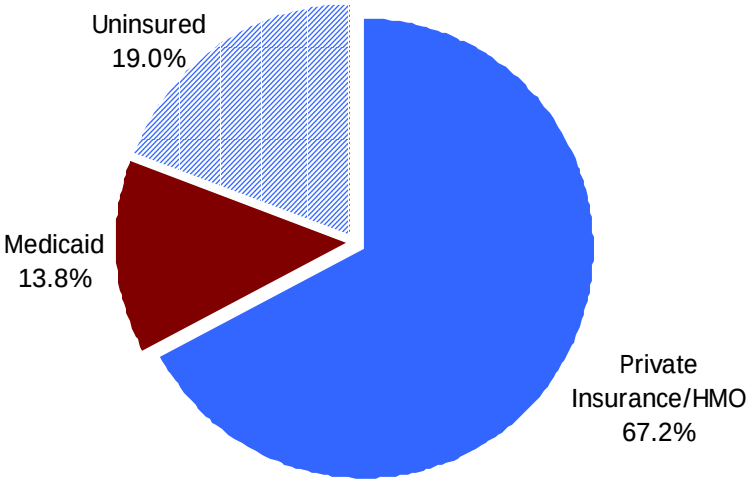


Maternal Demographics

Figure 5:

Prevalence of insurance status,

2002 MI PRAMS



Unintended Pregnancy

Definition:

Information regarding pregnancy intention was derived from question #10:

> *Question #10: Thinking back to just before you got pregnant, how did you feel about becoming pregnant?*
> *_I wanted to be pregnant sooner*
> *_I wanted to be pregnant later*
> *_I wanted to be pregnant then*
> *_I didn't want to be pregnant then or at any time in the future*

An intended pregnancy was one in which the mother answered that she wanted to be pregnant then or sooner. Women who wanted to be pregnant later or not at all were classified as having an unintended pregnancy. Unintended pregnancy can be further subdivided into two categories: mistimed pregnancies or unwanted pregnancies. Mistimed pregnancies are those in which the mother wanted to be pregnant later than the time she became pregnant. Unwanted pregnancies were those in which the mother did not want to be pregnant then or in the future.

Results:

In 2002, 43.2% (or approximately 53,483) of women who delivered a live birth had an unintended pregnancy, with about 25.2% of those reported as unwanted (Figure #6). When stratified by race/ethnicity, the highest prevalence of unintended pregnancy was found in Non-Hispanic Blacks and Hispanics (64.9% and 51.7% respectively), followed by Asian/Pacific Islanders and non-Hispanic Whites and (41.2% and 37.7% , respectively) (Figure #7). Furthermore, as maternal age and educational status increases the prevalence of unintended pregnancy decreases. Women who were less than 18 years of age had an almost 2.5 times higher prevalence of unintended pregnancy compared to women of 30-35 years of age (Figure #8). In addition, women with a college degree had the lowest prevalence of unintended pregnancy (23.8%) while those with less than a high school education had the highest prevalence (64.2%) (Figure #9). Women with either Medicaid or no insurance were almost twice as likely to report an unintended pregnancy when compared to women with private insurance (Figure #10). Among the 50.8% of women who reported contraception use prior to pregnancy (Figure #11), the methods most frequently associated with contraceptive failure were condoms (30.5%), withdrawal (25.7%), and birth control pills (23.0%) (Figure #12).

Public Health Implications:

Unintended pregnancies are more likely to occur in socio-economically vulnerable groups: women under the age of 20, uninsured, low income (Medicaid participation as a proxy), and racial/ethnic minorities. Over half of women experiencing an unintended pregnancy indicated using a contraceptive method at the time they became pregnant. The most commonly utilized contraceptive methods reported were condoms, withdrawal, birth control pills, and other methods. This suggests that women are either not informed or misunderstand information regarding the effective use of contraceptive methods to prevent pregnancy and that contraceptive services may not be available to the women who need them the most. Tailored family planning services to women who never gave birth, are unmarried, or are enrolled in Medicaid along with education on appropriate contraceptive use in postpartum are needed for the reduction of unwanted pregnancies. Improving family planning services to better meet the needs of all women of reproductive age is one of the public health priorities in Michigan.

Reference Tables: #2 - #5

Unintended Pregnancy

Figure 6:

Prevalence of intended and unintended pregnancies and types of unintended pregnancies, 2002 MI PRAMS

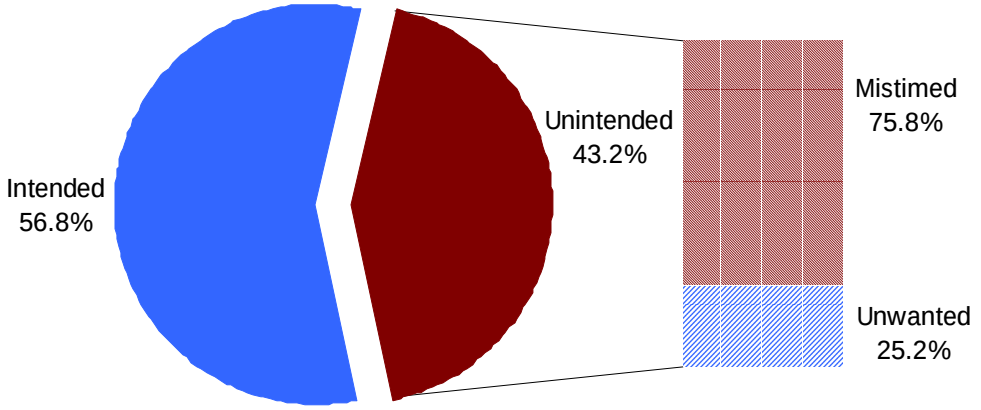
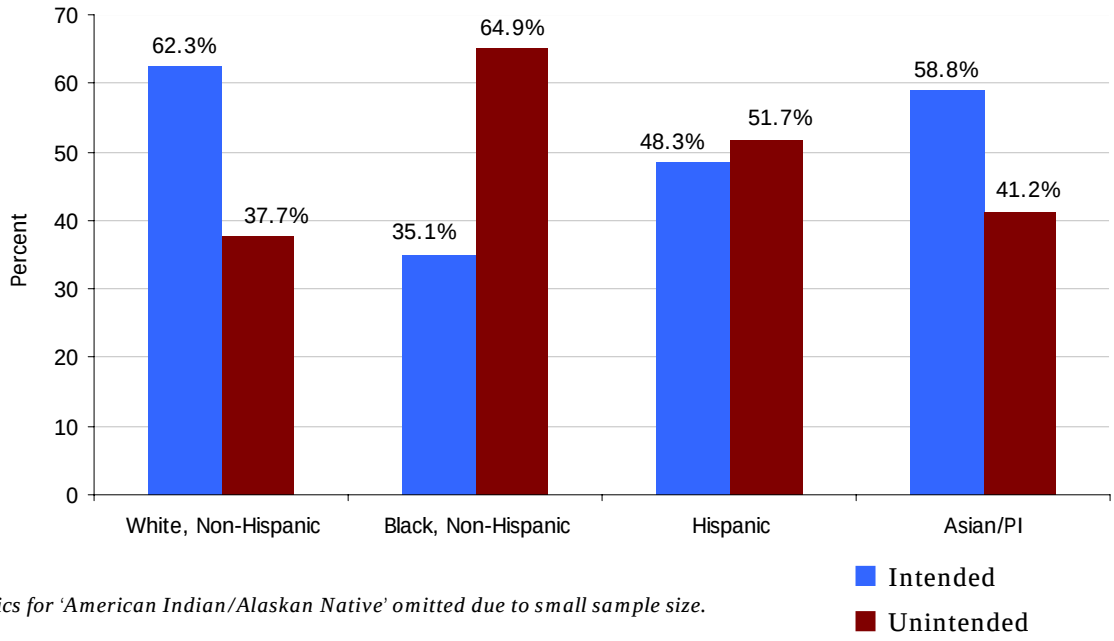


Figure 7:

Prevalence of intended and unintended pregnancies by maternal race/ethnicity; 2002 MI PRAMS



** *Statistics for 'American Indian/Alaskan Native' omitted due to small sample size.*

Unintended Pregnancy

Figure 8:

Prevalence of intended and unintended pregnancies by maternal age,
2002 MI PRAMS

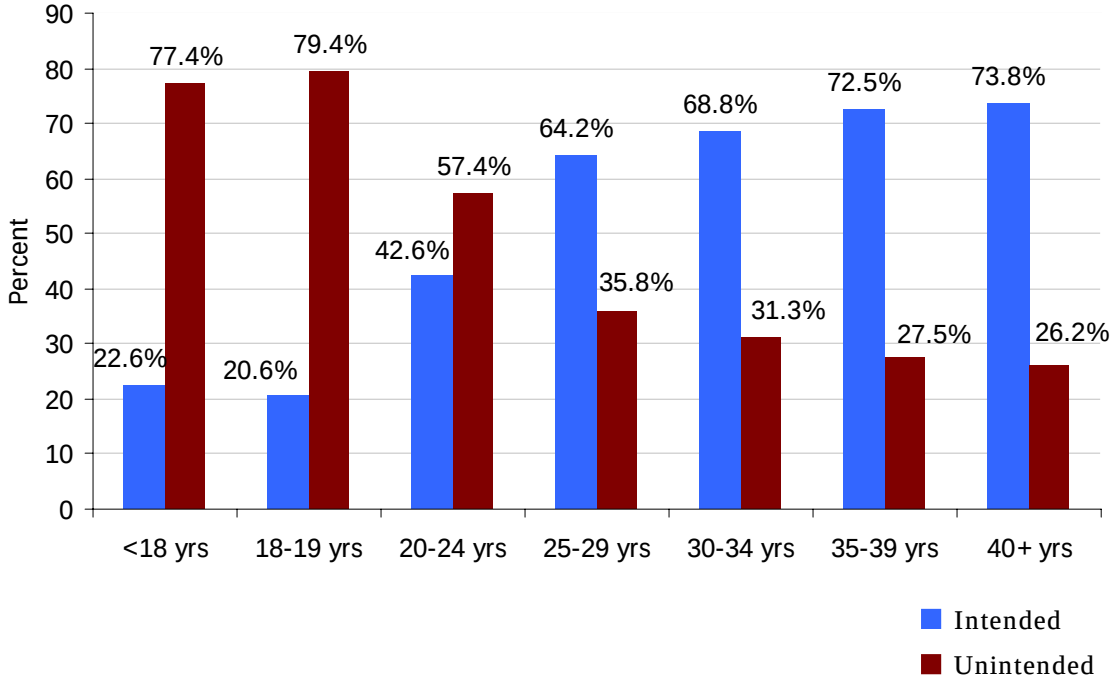
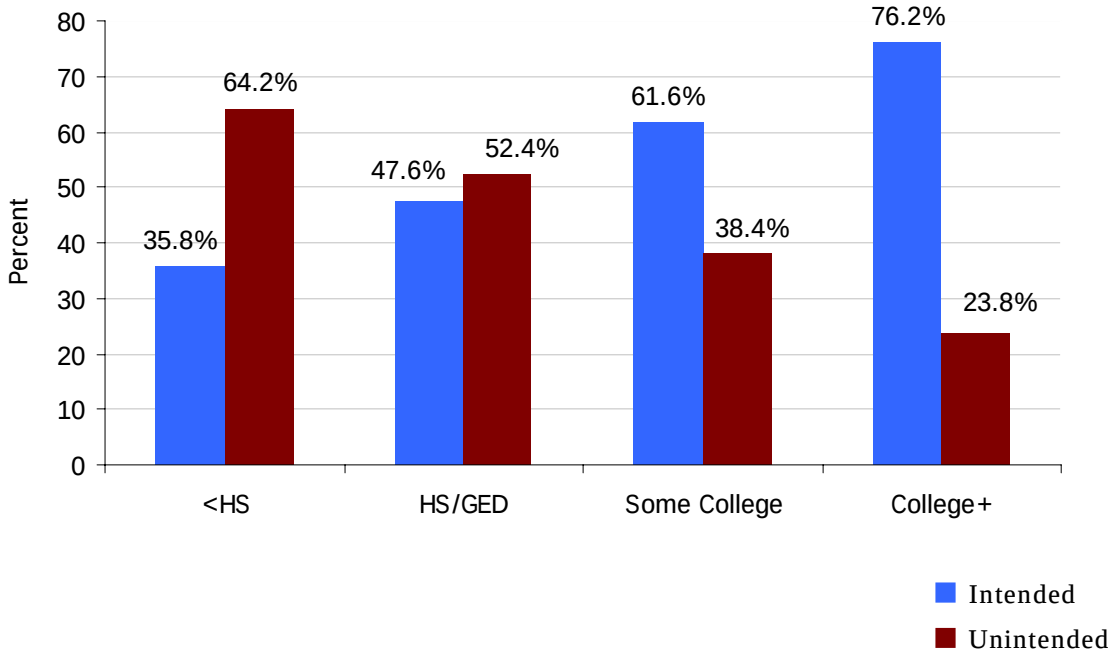


Figure 9:

Prevalence of intended and unintended pregnancies by maternal education,
2002 MI PRAMS



Unintended Pregnancy

Figure 10:

Prevalence of intended and unintended pregnancies by maternal pre-pregnancy insurance status, 2002 MI PRAMS

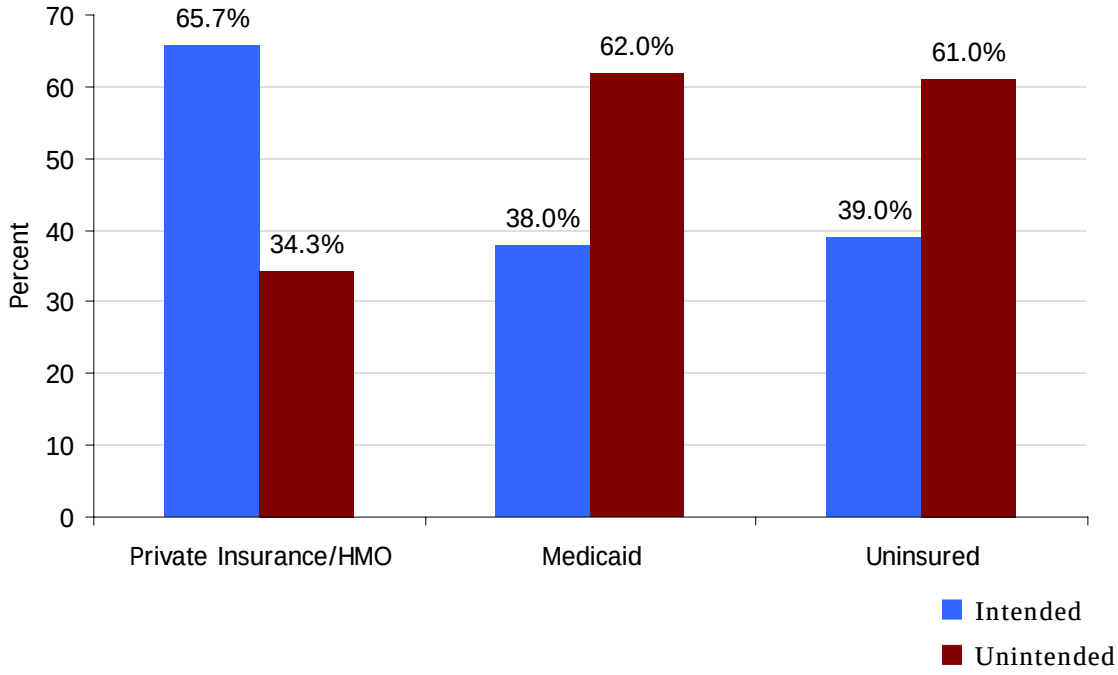
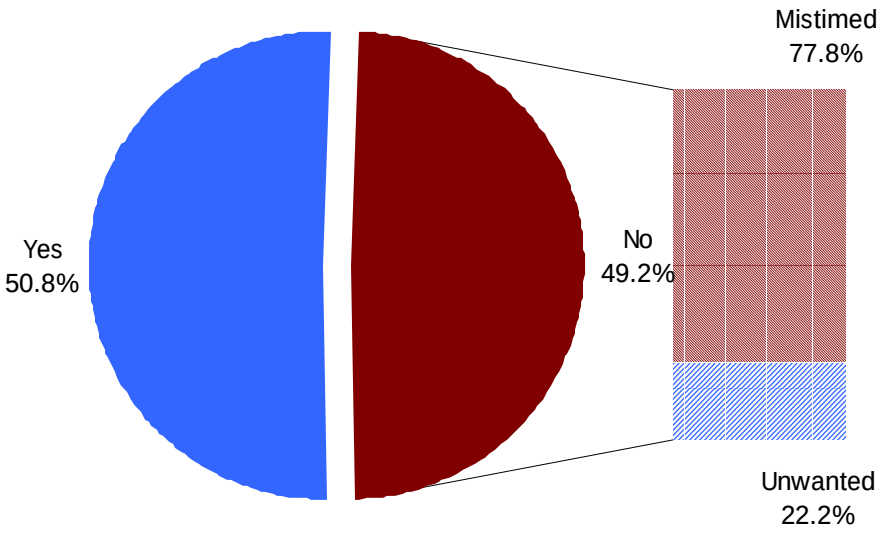


Figure 11:

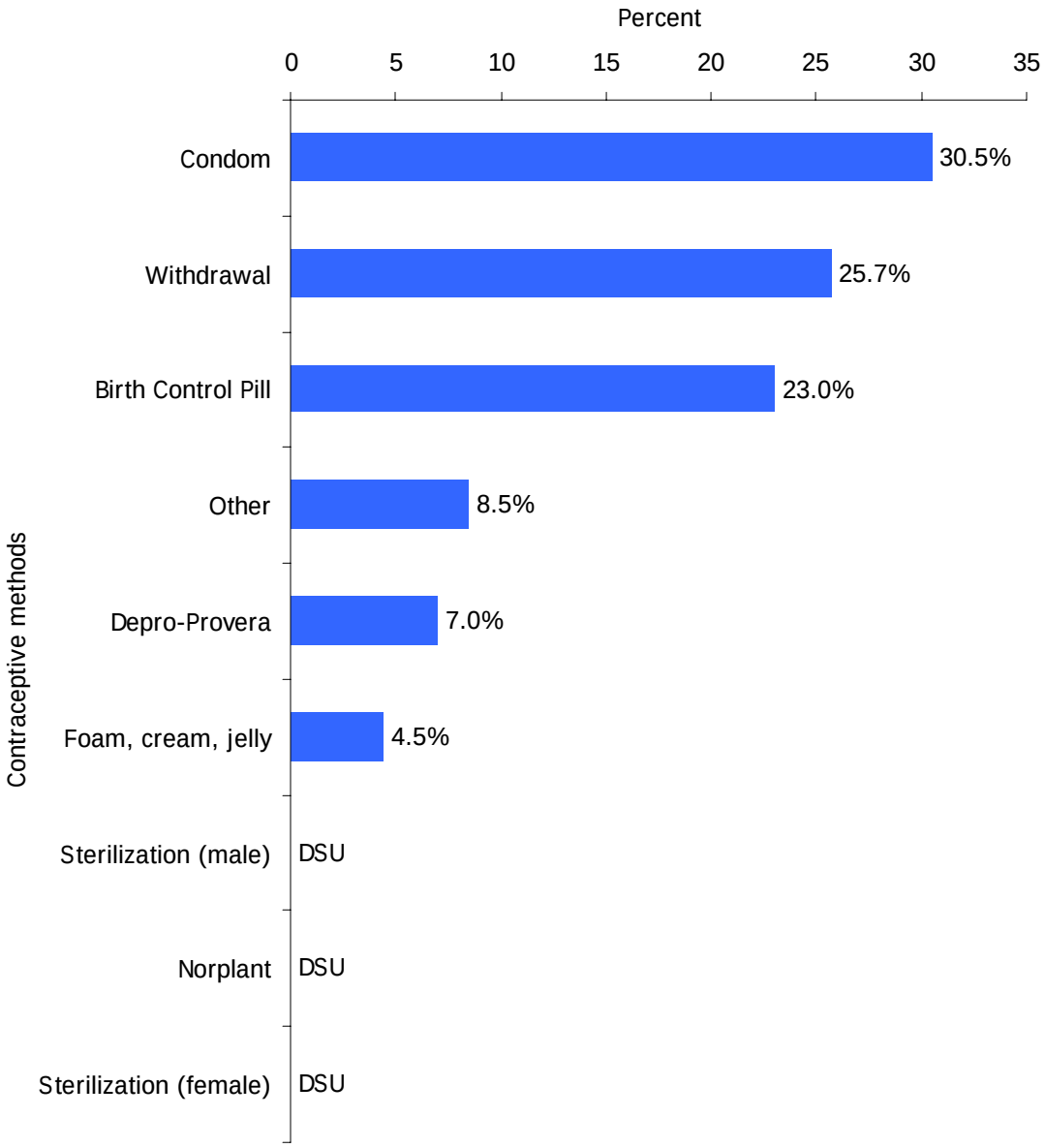
Prevalence of pre-pregnancy contraception use among women with an unintended pregnancy, 2002 MI PRAMS



Unintended Pregnancy

Figure 12:

Method of pre-pregnancy contraception among women with an unintended pregnancy, 2002 MI PRAMS



**DSU: data statistically unreliable*

Contraception

Definition:

Women were asked several questions regarding their use of contraception prior to and following their pregnancy. All women surveyed were asked the following question.

Question #12: When you got pregnant with your new baby, were you or your husband or partner doing anything to keep from getting pregnant?

_No
_Yes

Those who answered 'No' to question #12 were asked question #13:

Question #13: What were you or your husband or partner's reasons for not doing anything to keep from getting pregnant?

_I didn't mind if I got pregnant
_I thought I could not get pregnant at that time
_I had side effects from the birth control method I was using
_I had problems getting birth control when I needed it
_I thought my husband or partner was sterile
_My husband or partner didn't want to use anything
_Other

Those who answered 'Yes' to question #12 skipped question #13 and answered question #14:

Question #14: When you got pregnant with your new baby, what were you or your husband or partner doing to keep from getting pregnant?

_Pill
_Condoms
_Foam, cream, or jelly
_Norplant®
_Shots (Depo-Provera®)
_Withdrawal
_Tubes tied (sterilization)
_Vasectomy (sterilization)
_Other

To gather information on the use of postpartum contraception, participants were asked, the following:

Question #66: Are you, your husband or partner doing anything now to keep from getting pregnant?

_No
_Yes

Women who answered 'No' were asked an additional question:

Question #67: What are you and your husband or partner's reasons for not doing anything to keep from getting pregnant now?

_ I am not having sex
_I want to get pregnant
_I don't want to use birth control
_My husband or partner doesn't want to use anything
_I don't think I can get pregnant
_I can't pay for birth control
_I am pregnant now
_Other

Results:

Prior to pregnancy, 45.7% of women reported using contraception (Figure #13). Though the prevalence of contraception use did not change significantly when stratified by maternal age, younger women appeared to have lower rates of utilization: about 39.7% of women under the age of 18 years versus 47.0% of women 35-39 years of age (Figure #14). Contraception use was most frequently reported among Hispanics (59.7%) and those with a college degree (55.0%). Asian/Pacific Islanders and those with less than a high school degree were the most likely to report non-use (36.3% and 38.6% respectively) (Figures #15-#16). Prevalence rates of pre-pregnancy contraceptive use was similar among women who were on Medicaid, had private health insurance, or uninsured prior to their pregnancy (45.9%, 45.3%, and 45.5% respectively) (Figure #17). Among women who reported using contraception, the most popular methods were condoms (46.8%) and birth control pills (33.3%) (Figure #18). The three most commonly cited reasons for non-usage were "Didn't mind getting pregnant," " Husband or partner did not want to use birth control," or "Thought could not get pregnant" (Figure #19).

During the postpartum period, over 85% of women indicated usage of contraceptive methods and use was similar across all groups (Figure #20). Utilization of contraceptives postpartum did not vary greatly by mother's age, with over 80% of women reporting utilization in each age group (Figure #21). There was also similar high use of contraception methods postpartum among all race/ethnicity groups (Figure #22). The rate of contraception use was analogous across the educational levels, ranging from 83.9% to 87.9% (Figure #23). Healthcare professionals have the unique opportunity to teach women during prenatal care about the importance of contraception in the postpartum period. Approximately 22.1% of women who did not discuss contraception during prenatal care reported non-use as compared to the 12.9% of women who used contraception having discussed the topic with a healthcare professional (Figure #24). The reasons most commonly cited for contraceptive non-use in postpartum period were "did not want to use birth control", "not having sex", and "want to get pregnant" (Figure #25).

Public Health Implications:

Contraceptive use in the postpartum period is highest among women under the age of twenty, and among Black, non-Hispanic women. However, this group had the highest rates of unintended pregnancies. Therefore, providing family planning counseling on the choice of contraceptive method is very important, leading to prevention of very short inter-pregnancy intervals that are associated with various adverse maternal and infant health outcomes. Women who spoke to a health care provider about contraceptive use during the prenatal period were more likely to use contraceptives during the postpartum period. The reasons cited for not using a contraceptive method postpartum were "not wanting to use a birth control method, not having sex, husband/partner does not want to use, and wants to get pregnant". We can conclude that

the contraceptive counseling offered by health care professionals during the prenatal period is important to prepare women for the use in the postpartum period. Stressing the importance of spacing births and discussing contraceptive use early on should help address these issues.

Reference Tables: #6 - #10

Contraception

Figure 13:

Prevalence of contraceptive use prior to pregnancy,

2002 MI PRAMS

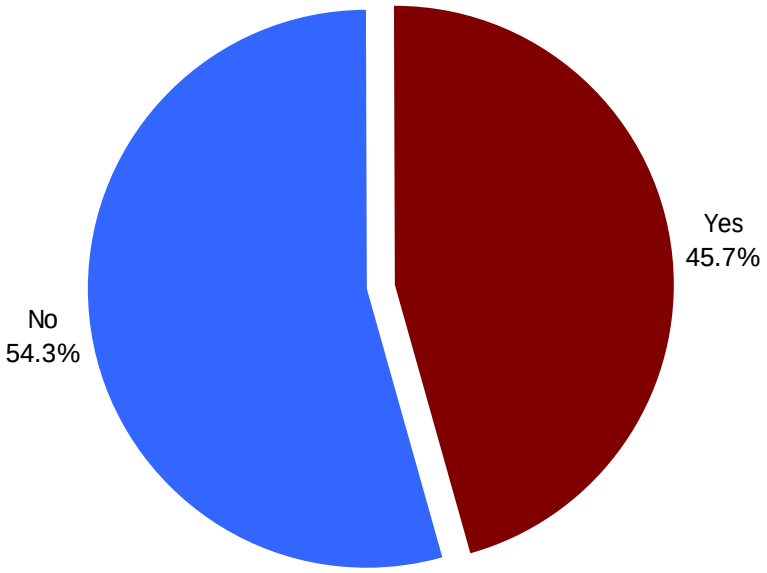
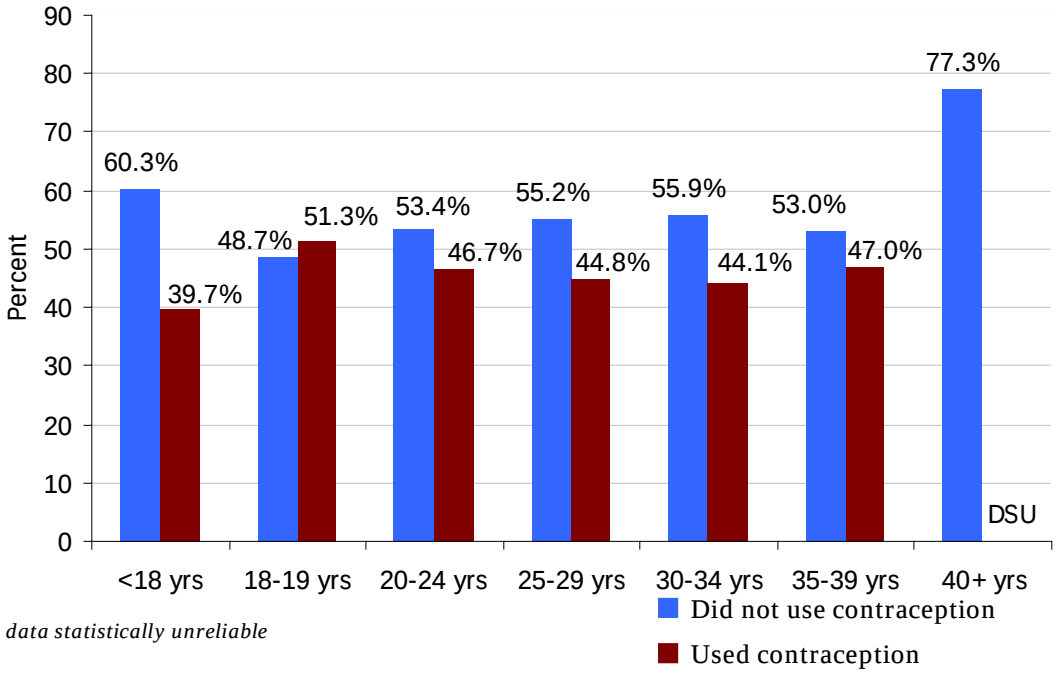


Figure 14:

Prevalence of contraceptive use prior to pregnancy by maternal age,

2002 MI PRAMS

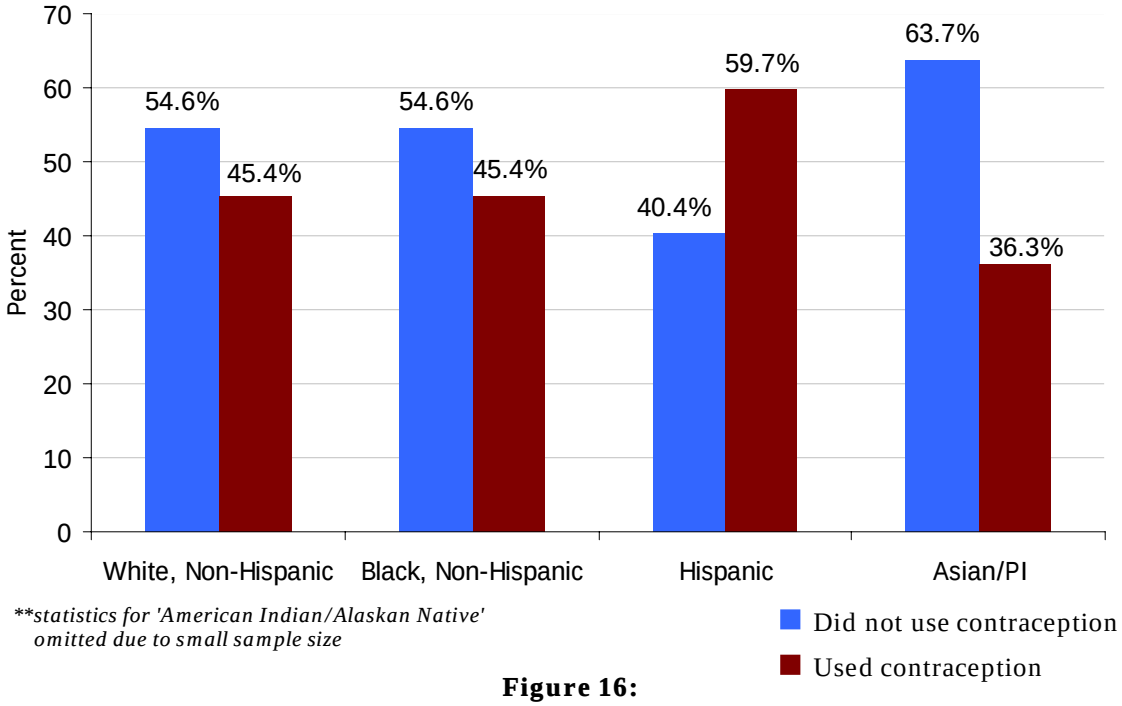


**DSU: data statistically unreliable*

Contraception

Figure 15:

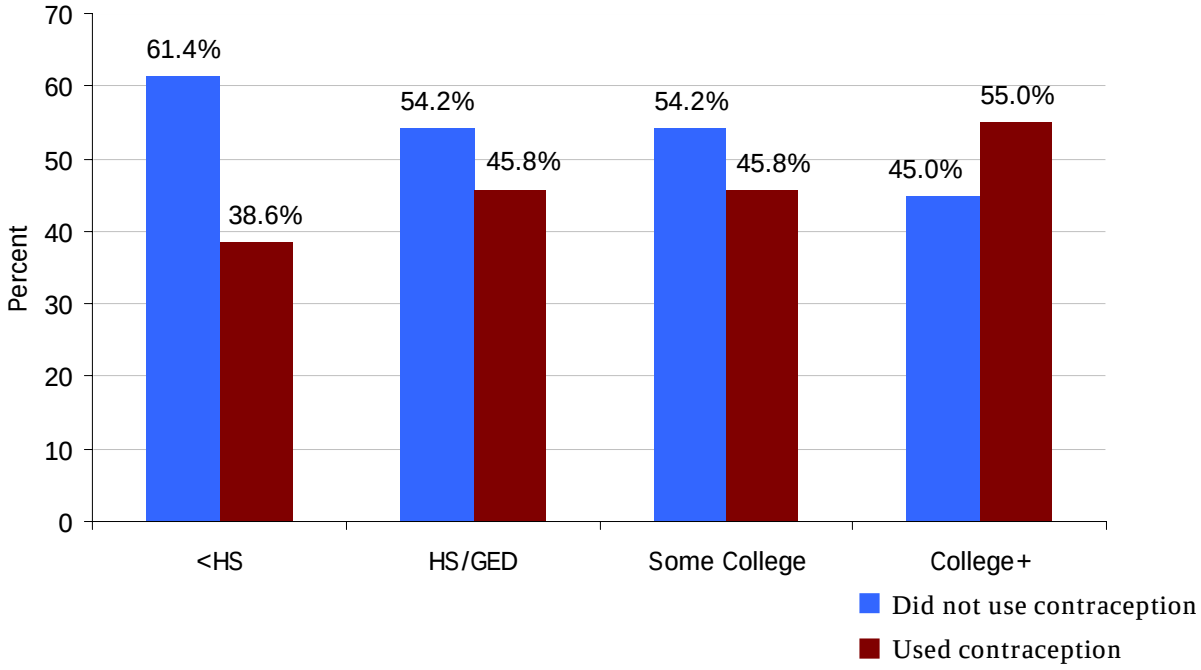
Prevalence of contraceptive use prior to pregnancy by maternal race/ethnicity, 2002 MI PRAMS



***statistics for 'American Indian/Alaskan Native' omitted due to small sample size*

Figure 16:

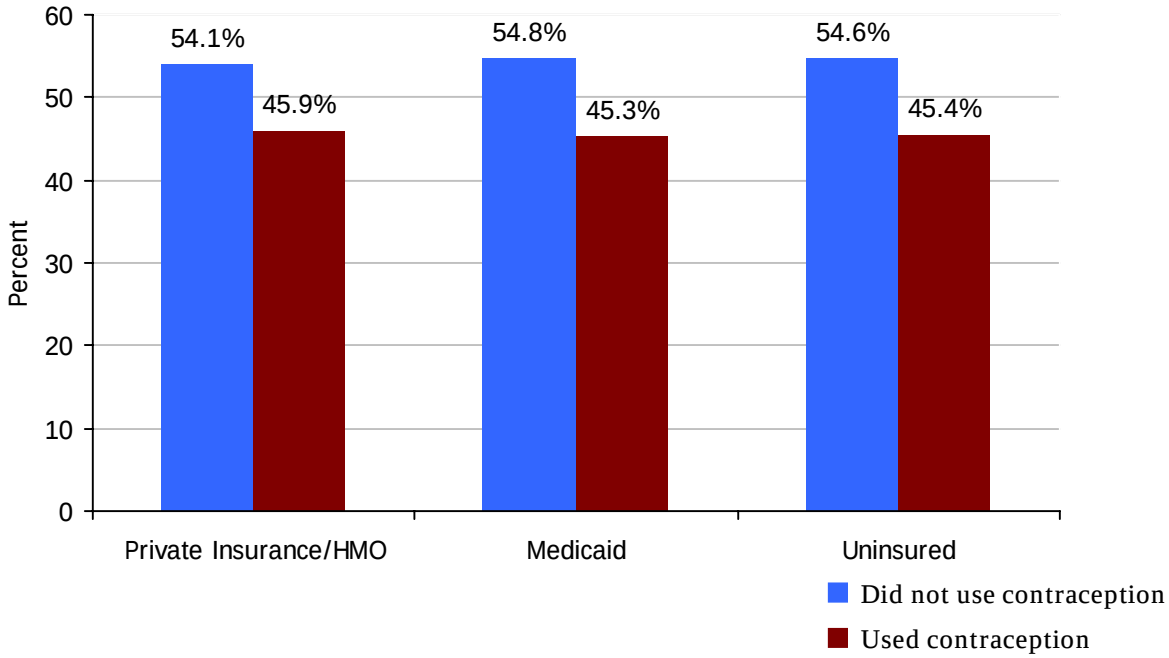
Prevalence of contraceptive use prior to pregnancy by maternal education, 2002 MI PRAMS



Contraception

Figure 17:

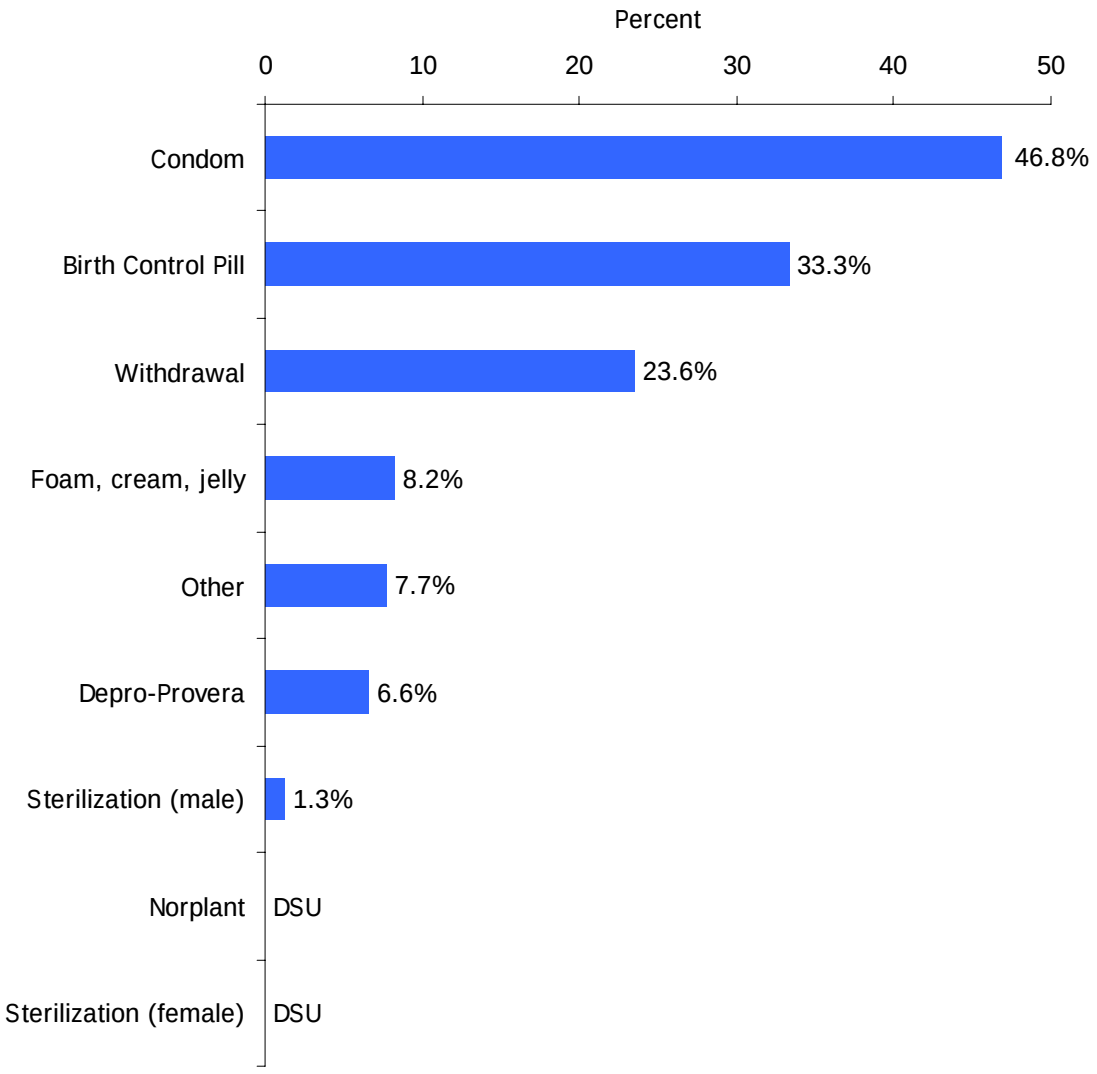
Prevalence of contraceptive use prior to pregnancy by insurance status, 2002 MI PRAMS



Contraception

Figure 18:

Method of contraception among women who indicated using contraception prior to pregnancy, 2002 MI PRAMS

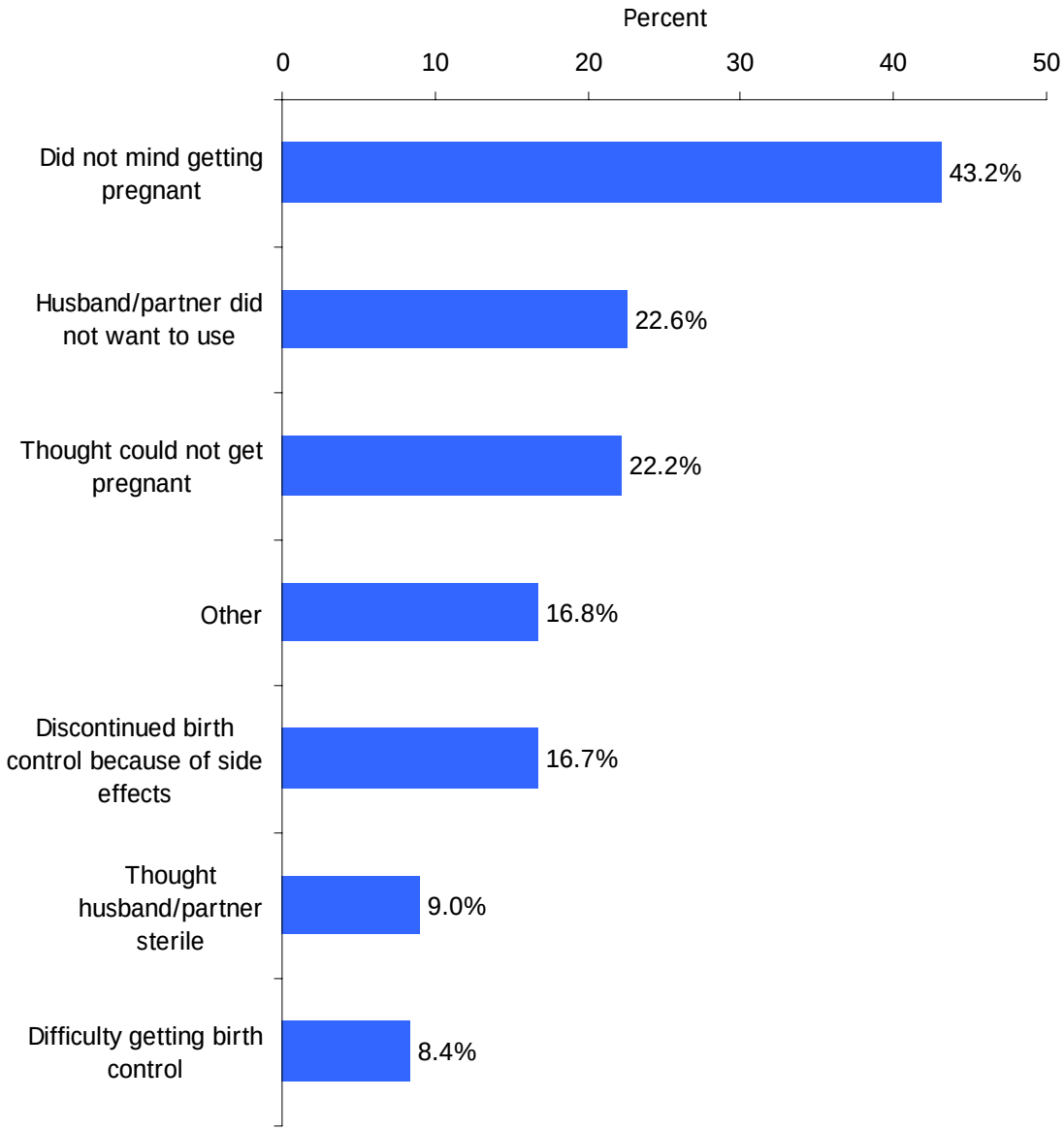


**DSU: data statistically unreliable*

Contraception

Figure 19:

Reasons for not using a contraceptive method prior to pregnancy, 2002 MI PRAMS



Contraception

Figure 20:

Prevalence of contraception use during the postpartum period

2002 MI PRAMS

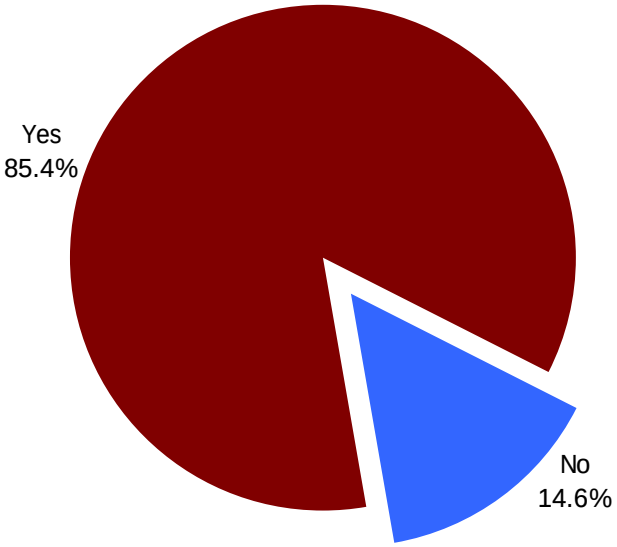
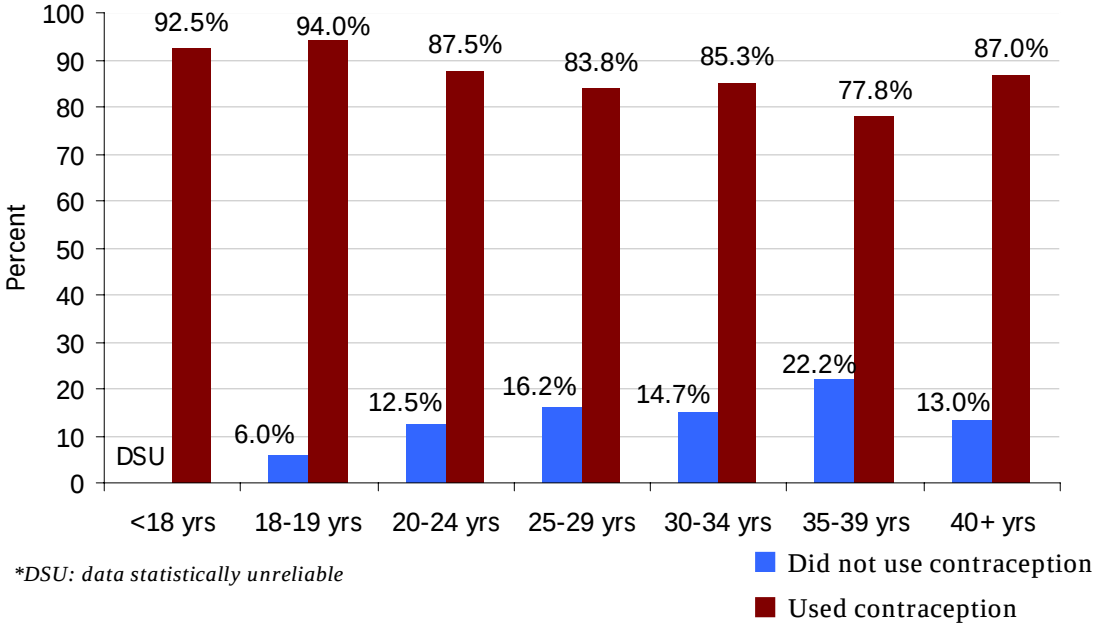


Figure 21:

Prevalence of contraception use during the postpartum period by maternal age,

2002 MI PRAMS

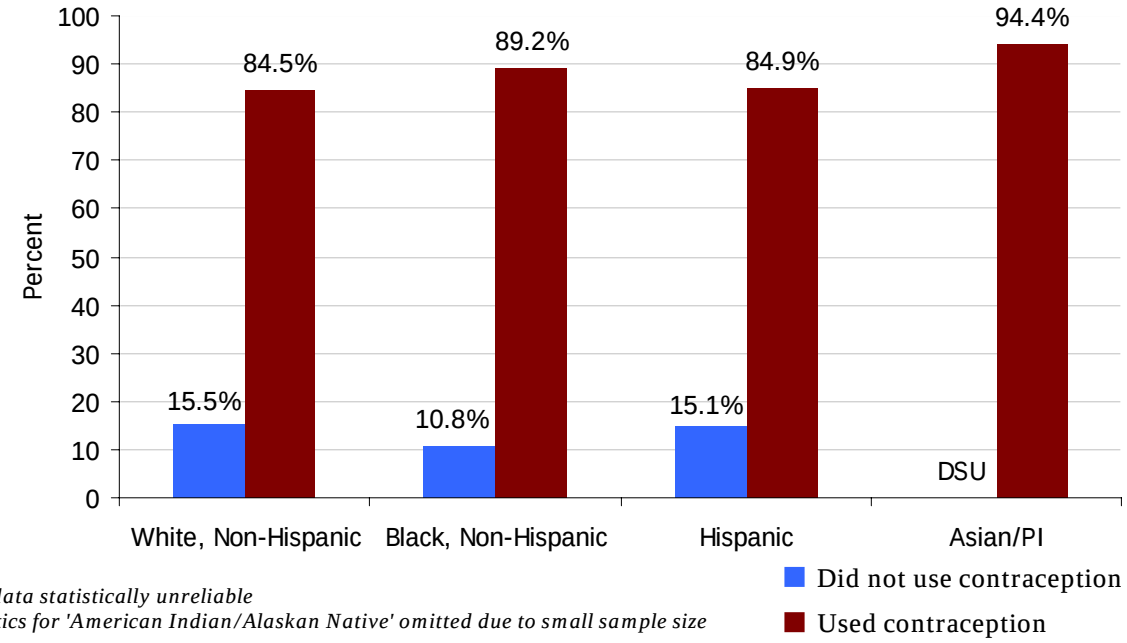


**DSU: data statistically unreliable*

Contraception

Figure 22:

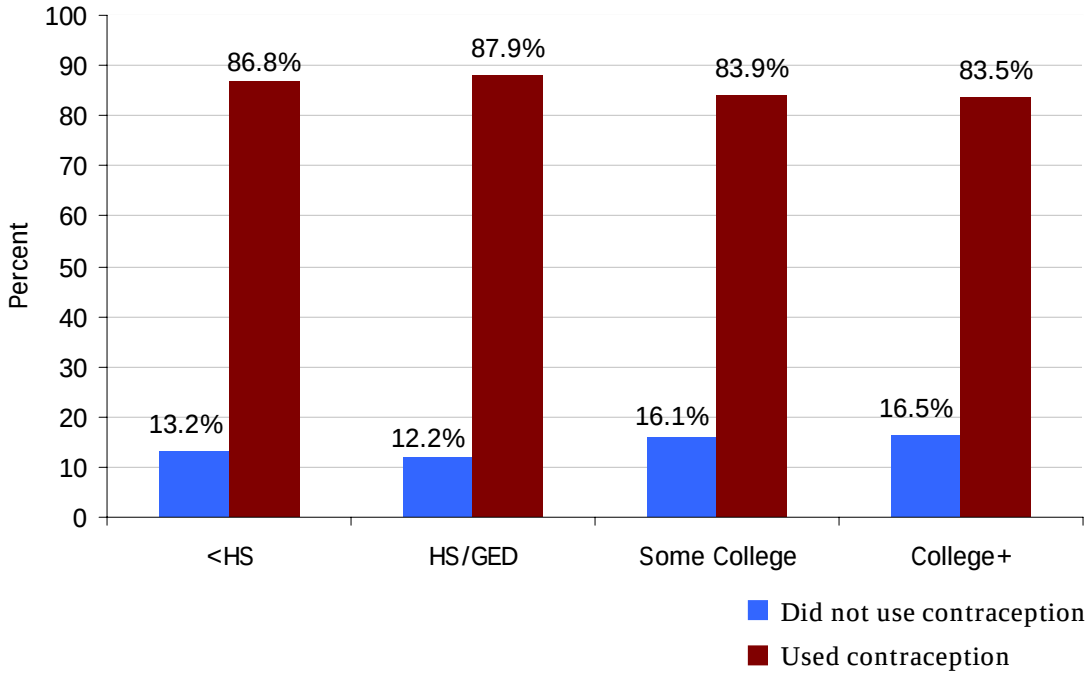
Prevalence of contraception use during the postpartum period by maternal race/ethnicity, 2002 MI PRAMS



**DSU: data statistically unreliable*
***statistics for 'American Indian/Alaskan Native' omitted due to small sample size*

Figure 23:

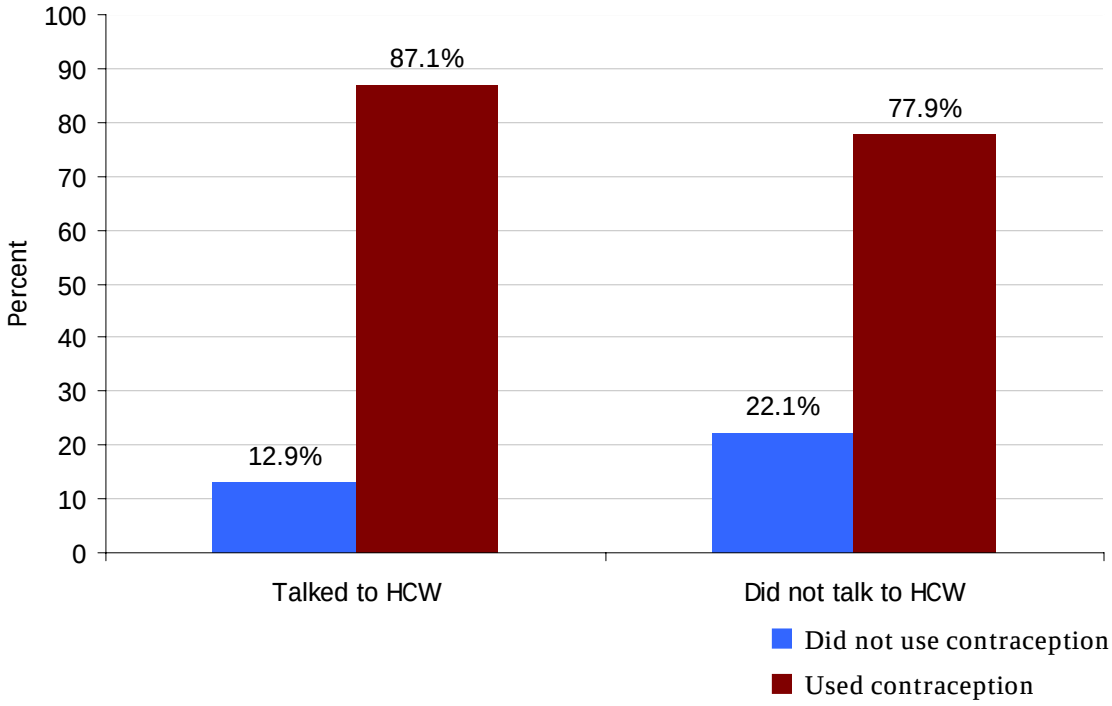
Prevalence of contraception use during the postpartum period by maternal education, 2002 MI PRAMS



Contraception

Figure 24:

Use of contraception during postpartum by discussion with health care professional during prenatal care, 2002 MI PRAMS

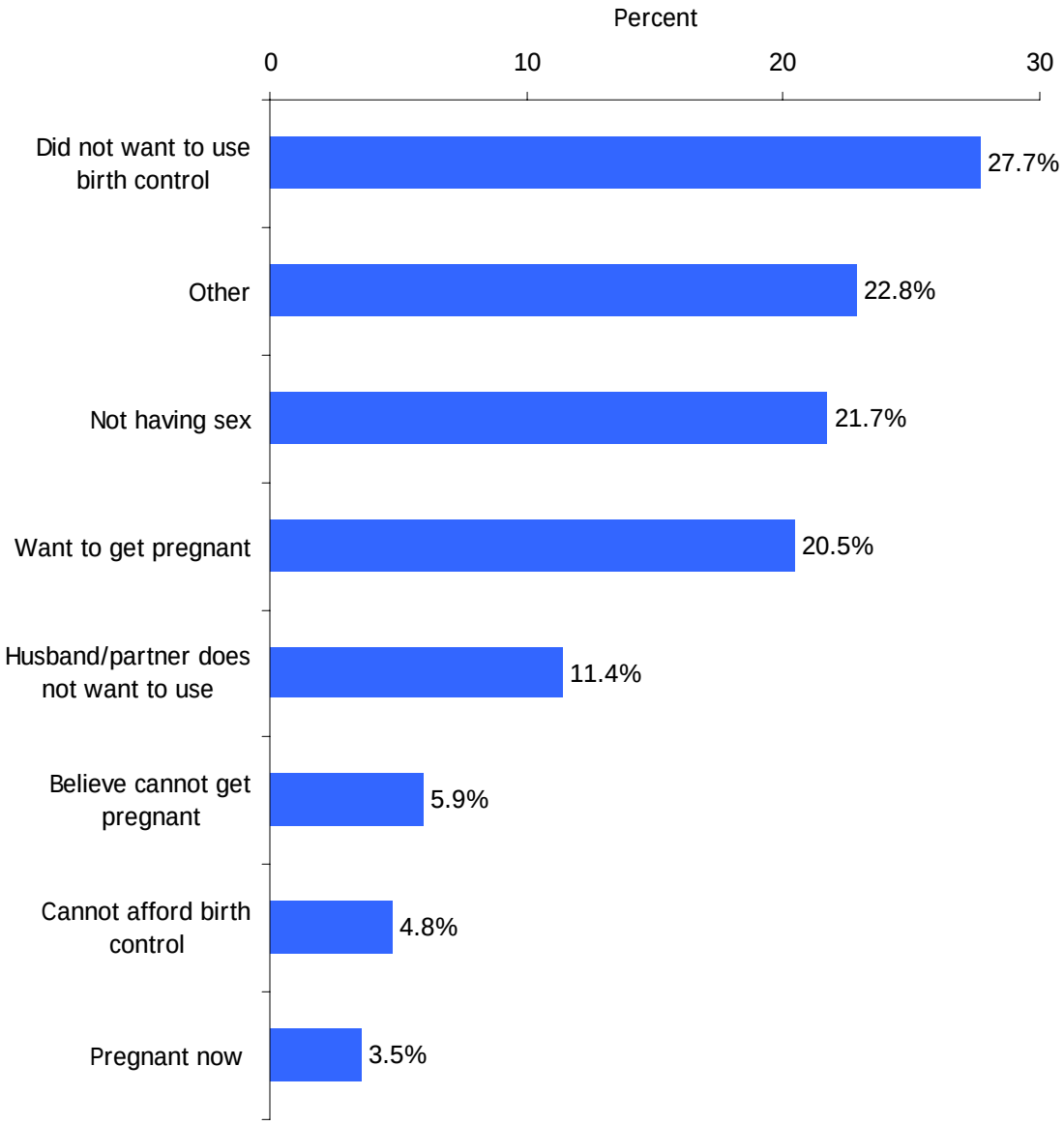


Contraception

Figure 25:

Reasons for not using a contraceptive method postpartum

2002 MI PRAMS



Low Birthweight

Definition:

Information on infant's birthweight was derived from information from the birth certificate included in PRAMS dataset. Infants were classified as 'low birthweight' if they weighed less than 2500 grams (5.51 lbs) at birth and normal birth weight if they weighed 2500 grams or more. Low birth weight infants were further subdivided into very low birth weight (weight <1500 grams or 3.31 lbs at birth) or moderately low birthweight (weight=1500-2499 grams or 3.31-5.51 lbs at birth).

Results:

Among the 129,518 live births in 2002, 7.1% of the infants weighed less than 2500 grams and of those 78.6% were moderately low birthweight and 21.4% were very low birth weight infants (Figure #26). The prevalence of low birthweight varied by maternal characteristics. When stratified by maternal age, women less than 18 or older than 40, experienced the highest rate of low birthweight infants (11.2% and 20.1%, respectively) (Figure #27). The prevalence of low birthweight was highest among Non-Hispanic Blacks (11.9%) followed by Asian/Pacific Islanders (7.9%), Non-Hispanic Whites (5.9%), and Hispanics (4.9%) (Figure #28). As the educational status of women increases, the prevalence rate of low birthweight decreases with women with less than a high school education having the highest rate of low birthweight at 9.8% (Figure #29). When stratified by insurance status, Medicaid recipients experienced a higher prevalence of low birth weight infants (8.6%) compared to women with private coverage (6.5%) (Figure #30). Further, greater than 70% of low birthweight infants were also found to be preterm (Figure #31).

Other known risk factors for having a low birthweight infant were analyzed such as pregnancy intention and smoking status. Women who had an unintended pregnancy had a higher prevalence rate of low birthweight infants than women with an intended pregnancy (7.9% versus 6.5% respectively) (Figure #32). Unintended pregnancy was further subdivided into either mistimed or unwanted pregnancy. Approximately 11.0% of women with an unwanted pregnancy had low birthweight infants as opposed to 6.8% of women with a mistimed pregnancy (Figure #33). Women who smoked during pregnancy had a higher prevalence of low birthweight infants (9.4%) when compared to women who did not smoke (6.5%) (Figure #34).

Public Health Implications:

Those who are at risk for delivering a low birthweight infant are: women under eighteen or over the age of forty, those with less than a HS diploma/GED, women participating in Medicaid, Non-Hispanic Blacks, women with an unintended pregnancy and women who smoked during pregnancy. The majority (over 70%) of low birthweight infants are pre-term. Consequently, efforts targeted to prevent early labor and pre-term birth through counseling about the risks for preterm may have a considerable impact on the number of preterm and low birthweight births.

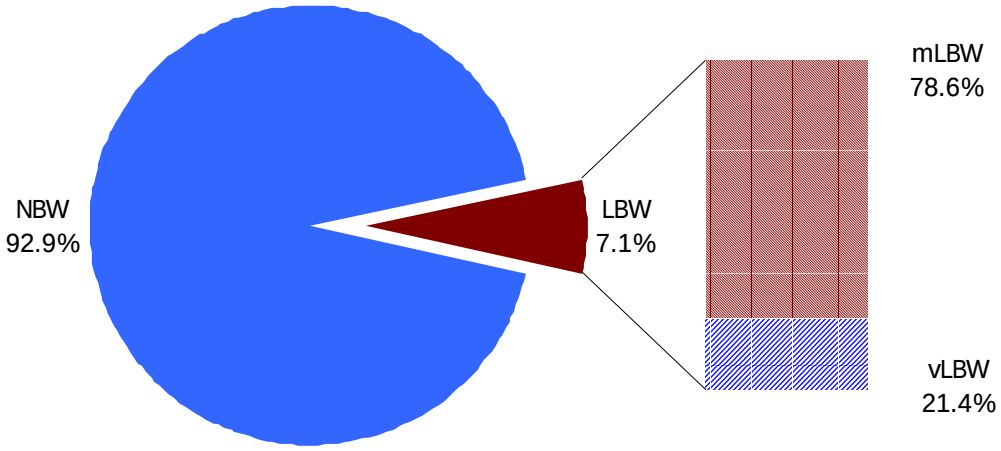
Reference Tables: #11- #14

Low Birthweight

Figure 26:

Prevalence of infant birthweight and types of low birth weight,

2002 MI PRAMS

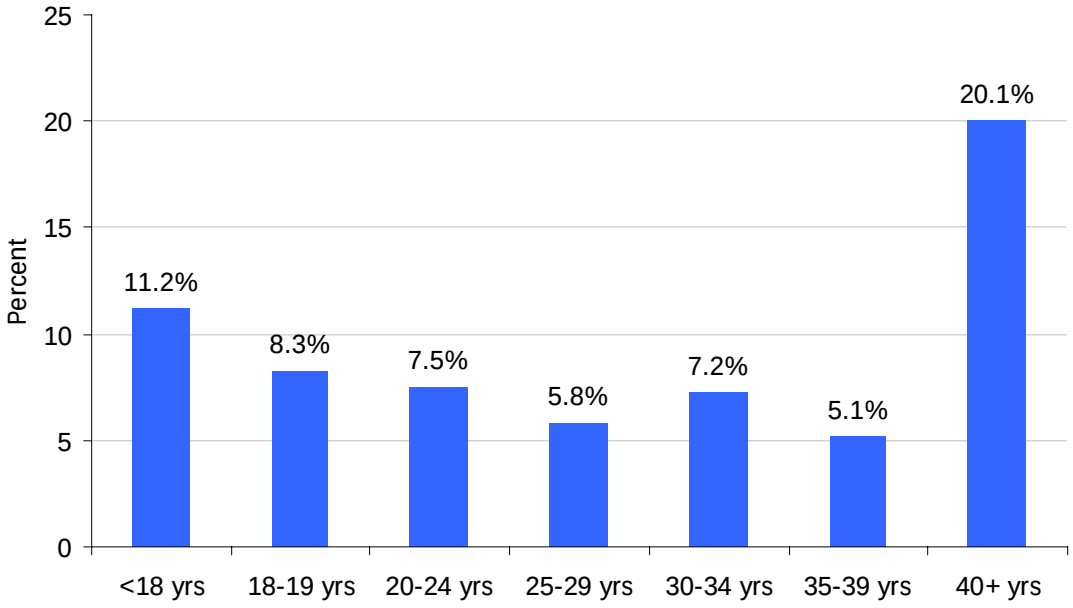


**mLBW: birth weight between 1500 grams and 2500*
**vLBW: birth weight less than 1500*

Figure 27:

Prevalence of low birthweight by maternal age,

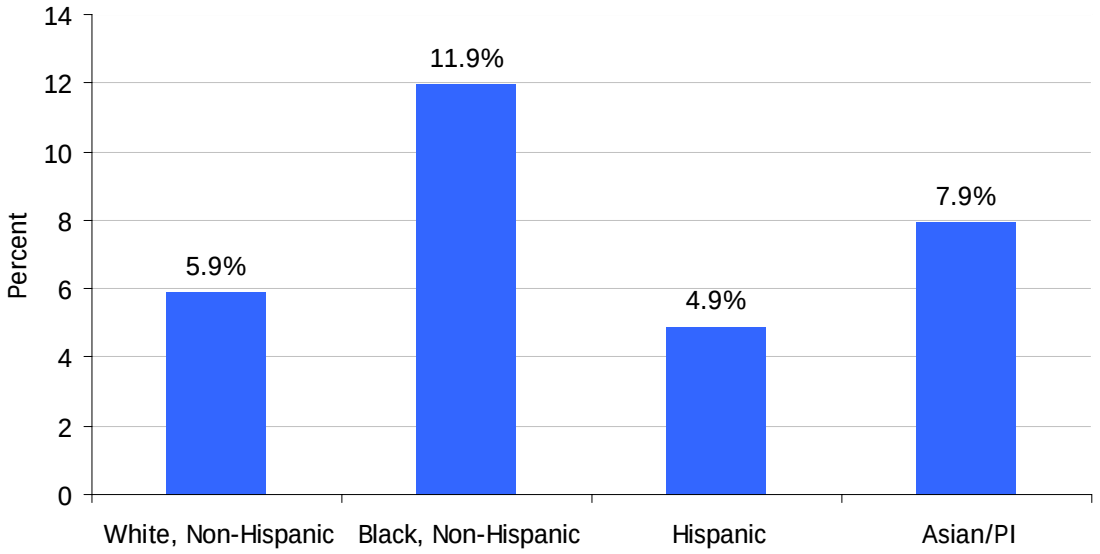
2002 MI PRAMS



Low Birthweight

Figure 28:

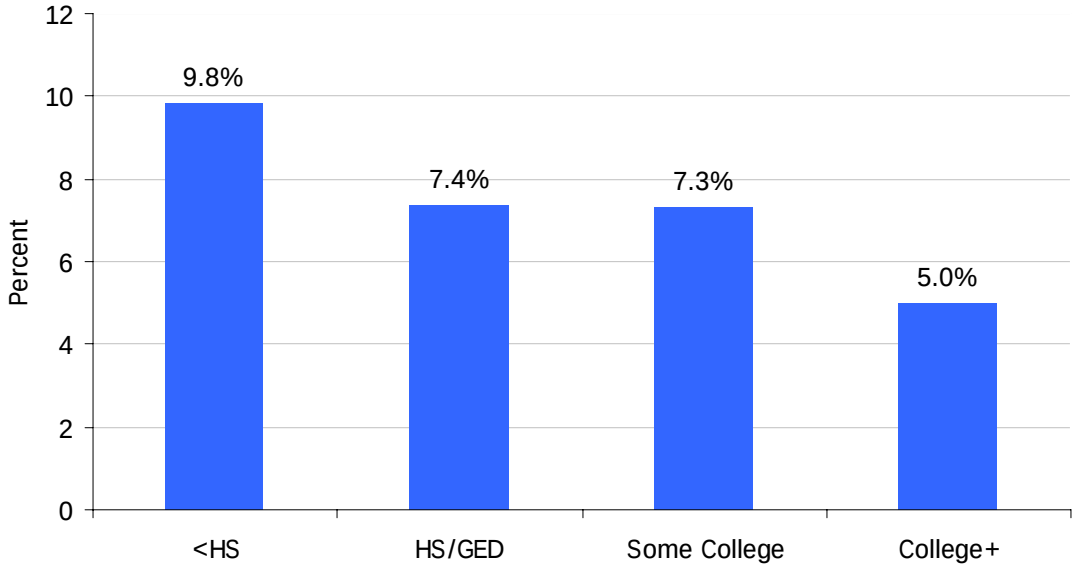
Prevalence of low birthweight by maternal race/ethnicity,
2002 MI PRAMS



***Statistics for 'American Indian/Alaskan Native omitted due to small sample size.*

Figure 29:

Prevalence of low birthweight by maternal education,
2002 MI PRAMS



Low Birthweight

Figure 30:

Prevalence of low birthweight by maternal pre-pregnancy insurance status, 2002 MI PRAMS

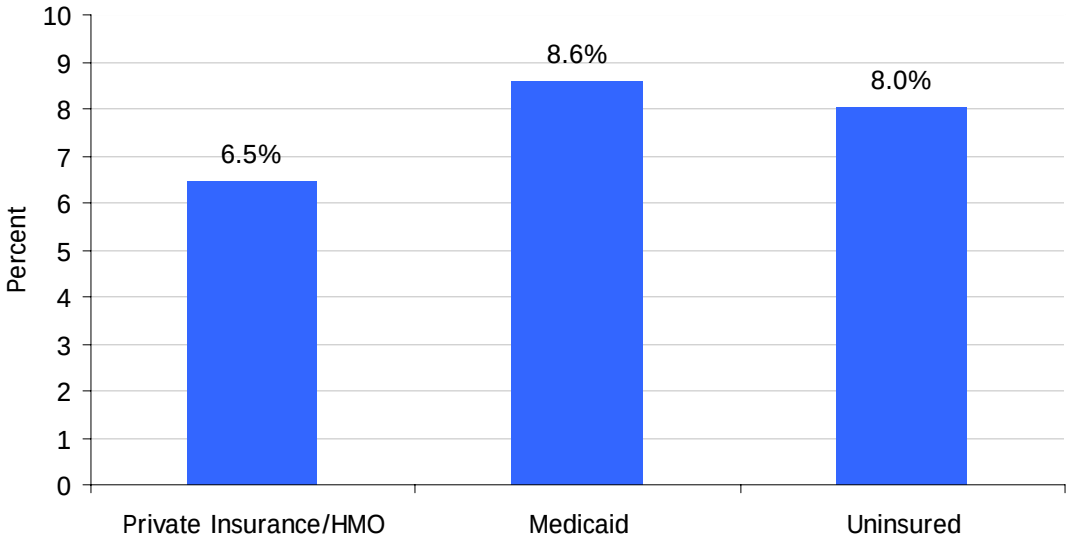
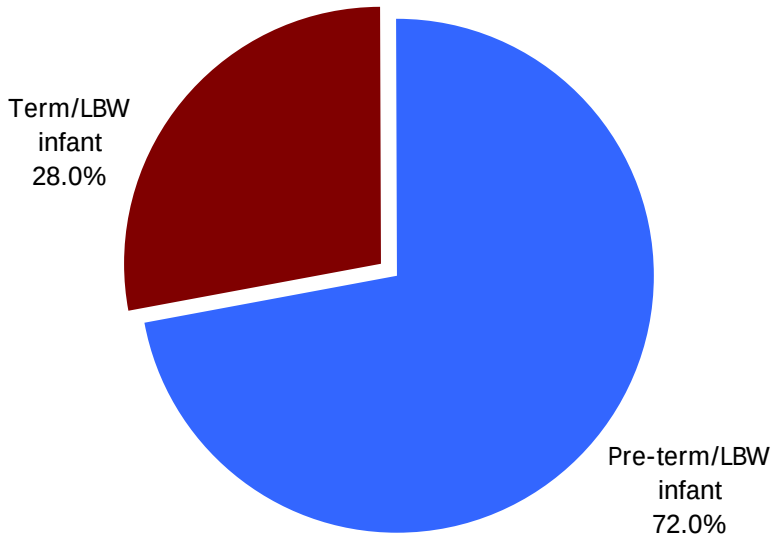


Figure 31:

Prevalence of low birthweight by gestational age, 2002 MI PRAMS



Low Birthweight

Figure 32:

Prevalence of low birthweight by pregnancy intention

2002 MI PRAMS

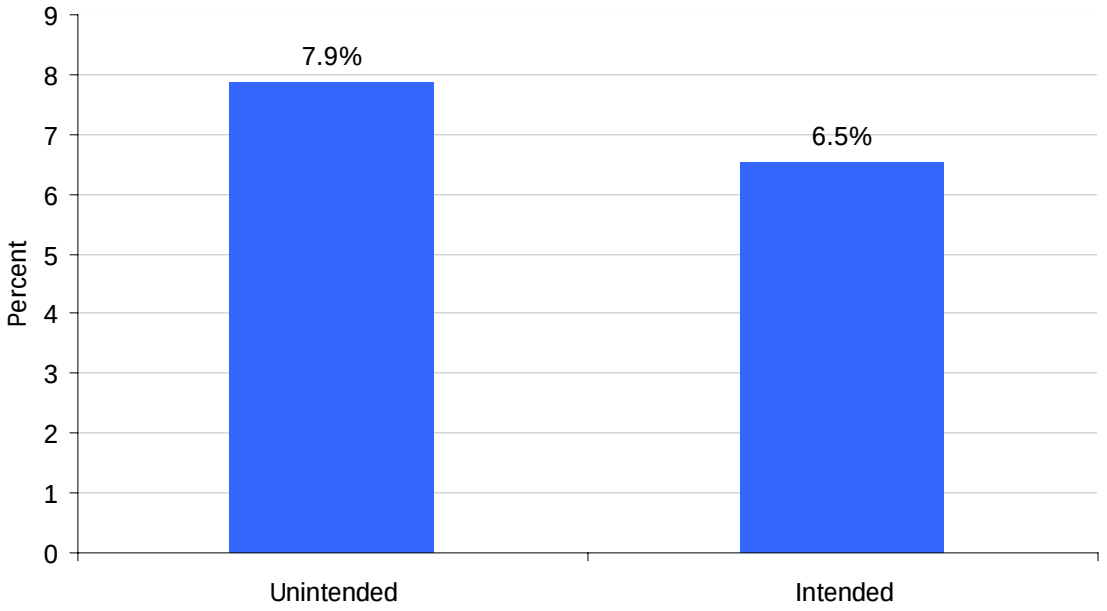
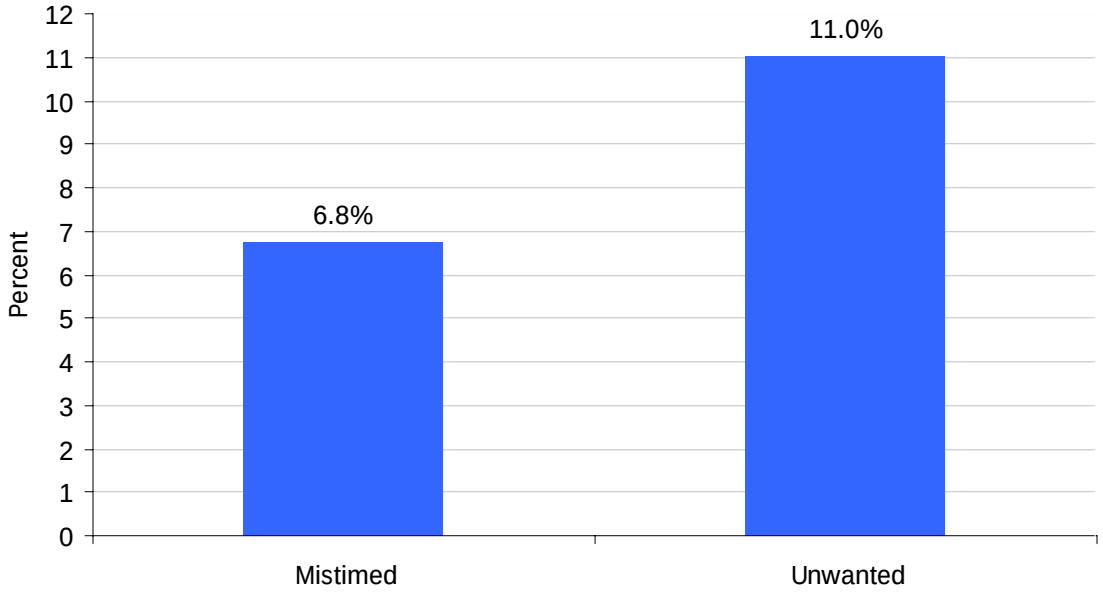


Figure 33:

Prevalence of low birthweight by pregnancy intention type,

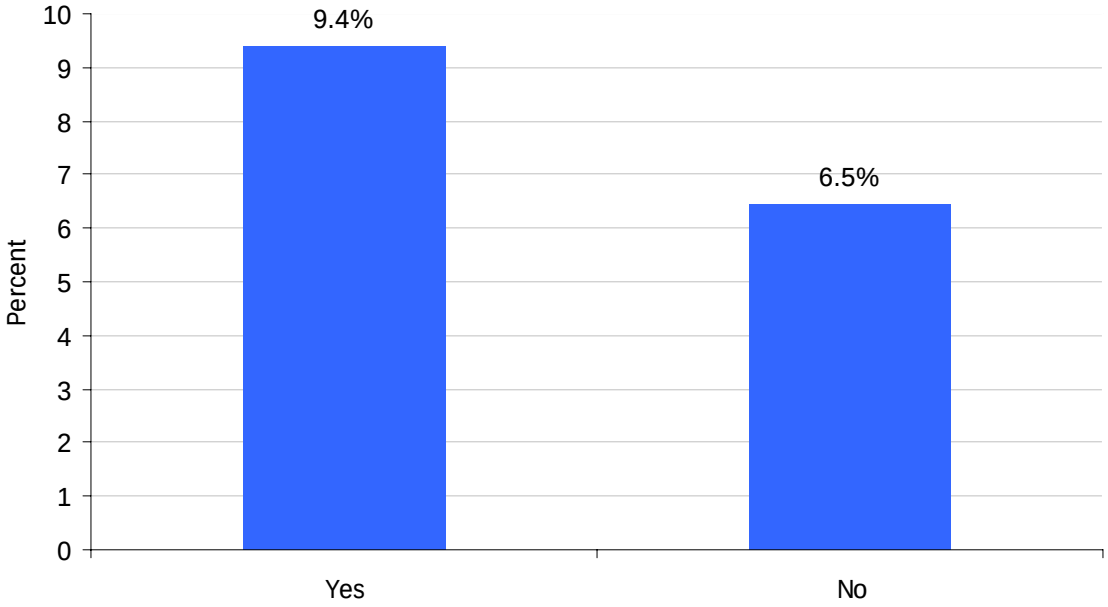
2002 MI PRAMS



Low Birthweight

Figure 34:

Prevalence of low birthweight by smoking status during pregnancy, 2002 MI PRAMS



Prenatal Care

Definition:

Several questions in the PRAMS questionnaire are devoted to the topic of prenatal care. The first question ascertains when care was initiated.

> *Question #16: How many weeks or months pregnant were you when you had your first visit for prenatal care? (Do not count a visit that was only for a pregnancy test or only for WIC [the special supplemental nutrition program for Women, Infants, and Children].)*
>
> *_weeks*
> *_months*
> *_ I did not go for prenatal care*

Women who indicated that they entered prenatal care by the twelfth week (by the end of the third month) of their pregnancy were coded as initiating care in the first trimester. Those who entered care between the thirteenth and twenty-fourth week (fourth through sixth month) of their pregnancy were coded as entering care in the second trimester. Women entering PNC after their twenty-fourth week (seventh month), entered care in their third trimester. Women who were coded as having 'No PNC' indicated they did not go for prenatal care during their pregnancy. Women surveyed for PRAMS were also asked about their satisfaction with the time they entered care.

> *Question #17: Did you get prenatal care as early in your pregnancy as you wanted?*
>
> *_No*
> *_Yes*
> *_I did not want prenatal care*

Women who responded 'No' were said to have entered care later than they desired and those who answered 'Yes' as early as they desired. Those women who entered PNC after their first trimester and who entered later than they desired were asked to identify, barriers they felt prevented them from obtaining care when they desired.

> *Question #18: Did any of these things keep you from getting prenatal care as early as you wanted?*
>
> *_I couldn't get an appointment earlier in my pregnancy*
> *_I didn't have enough money or insurance to pay for my visits*
> *_I didn't know I was pregnant*
> *_I had no way to get to the clinic or doctor's office*
> *_The doctor or my health plan would not start care earlier*
> *_I didn't have my Medicaid card*
> *_I had no one to take care of my children*
> *_I had too many other things going on*
> *_Other*

Information on prenatal care provider and method of payment for care, among women who obtained care, was gleaned from responses to question #19 and #20:

Question #19: Where did you go most of the time for your prenatal care visits? (Do not count visits for WIC).

_Hospital clinic
_Health department clinic
_Private doctor's office or HMO clinic
_Other

Question# 20: How was your prenatal care paid for?

_Medicaid or Medicaid HMO
_Personal Income (cash, check, or credit card)
_Health insurance or HMO
_Other

Information regarding health education during prenatal care visits was derived from question #21, which asked women to indicate the topics they discussed with a healthcare professional during any of their visits.

Question #21: During any of your prenatal care visits, did a doctor, nurse, or health care worker talk with you about any of the things listed below? (Please count only discussions, not reading materials or videos)

_How smoking during pregnancy could affect your baby
_Breastfeeding your baby
_How drinking alcohol during pregnancy could affect your baby
_Using a seatbelt during your pregnancy
_Birth control methods to use after your pregnancy
_Medicines that are safe to take during your pregnancy
_How using illegal drugs could affect your baby
_Doing tests to screen for birth defects or diseases that run in your family
_What to do if your labor starts early
_Getting your blood tested for HIV (the virus that causes AIDS)
_Physical abuse to women by their husbands or partners

Results:

In 2002, more than 3 in 4 pregnant women reported entering prenatal care during the first trimester of their pregnancy (Figure #35). Greater than 80% of women between 25-39 years of age entered prenatal care during the first trimester (Figure #36). Black, Non-Hispanic women (44.0%) were the most likely to enter into prenatal care after the first trimester when compared to White, Non-Hispanic women(17.6%) (Figure #37). Entry into first trimester prenatal care had a direct relationship with maternal education, with women with at least college education having the highest rate (88.5%) of first trimester prenatal care entry and women with less than a high school diploma having the lowest rate (54.2%) (Figure #38). Furthermore, women without insurance prior to pregnancy or who were Medicaid recipients had lower rates of prenatal care entry in the first trimester (56.3% and 64.1%, respectively) when compared to women with private insurance (86.0%) (Figure #39). Fewer women who had an unintended pregnancy entered prenatal care during the first trimester compared to women with an intended pregnancy (Figure #40).

A majority (80.2%) of women were satisfied with the time of entry into prenatal care (Table #18). Women face many barriers, both real and perceived, that may affect the time of entry into prenatal care. Over 60% of women who entered prenatal care later than desired reported having

at least one barrier, 23.0% two barriers, and 10.6% three barriers. The most frequently cited barriers to prenatal care were being unaware of their pregnancy (37.3%), could not get an earlier appointment (36.7%), and could not pay for visits (19.7%) (Figure #41).

Almost 80% of women (79.1%) chose to receive their prenatal care at a doctor's office or HMO, while the other 20% chose either a hospital clinic or health department clinic (16.5% and 4.4% respectively) (Figure #42). Among women who received prenatal care, private insurance was the most common source of payment (66.6%), followed by Medicaid (35.9%) (Figure #43).

During prenatal care visits, healthcare professionals have the opportunity to educate women about various health and pregnancy related issues. Over 80% of women reported the following topics being discussed with them during at least one of their prenatal care visits: safe medications, birth defects screening, early labor, HIV/AIDS testing, breastfeeding, and postpartum contraception (Figure #44).

Public Health Implications:

Although the majority of pregnant women enter prenatal care early those who enter after their first trimester are of particular concern to public health professionals. The top three reasons reported by women for entering prenatal care after the first trimester were: being unaware of their pregnancy, could not get an earlier appointment, and could not afford an appointment. Two of these reasons were issues relating to health care access. Community-based initiatives to improve access to care can be effective in developing systems of care for women of childbearing age. Community-based educational initiatives on the early signs of and symptoms of pregnancy and benefits of early PNC need to target particularly teenagers, Black, Non-Hispanic women, and women with less that a high school education. Continued collaboration is needed between public health professionals and medical providers to further explore and improve access to care in the first trimester for pregnant women.

Reference Tables: #15-#23

Prenatal Care

Figure 35:

Trimester of entry into prenatal care,

2002 MI PRAMS

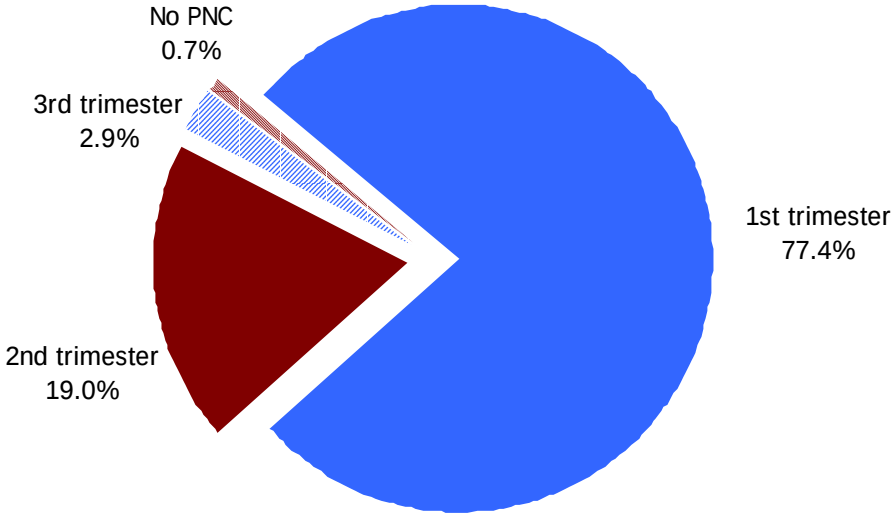
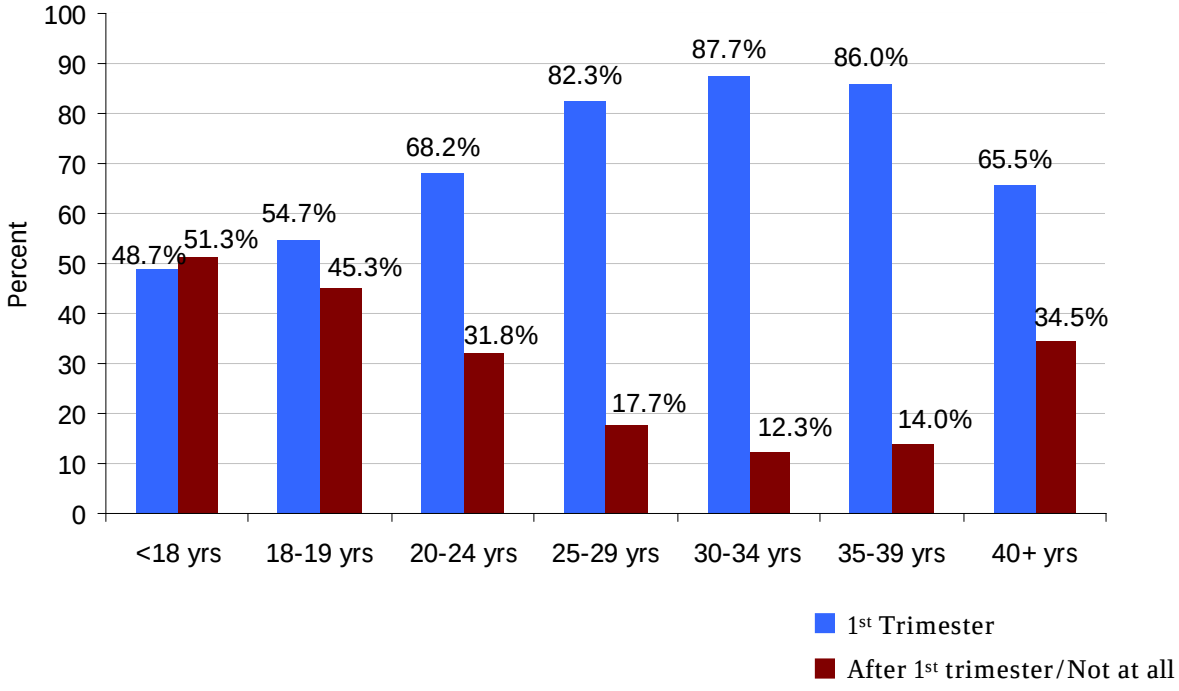


Figure 36:

Entry into prenatal care after the first trimester or not at all by maternal age,

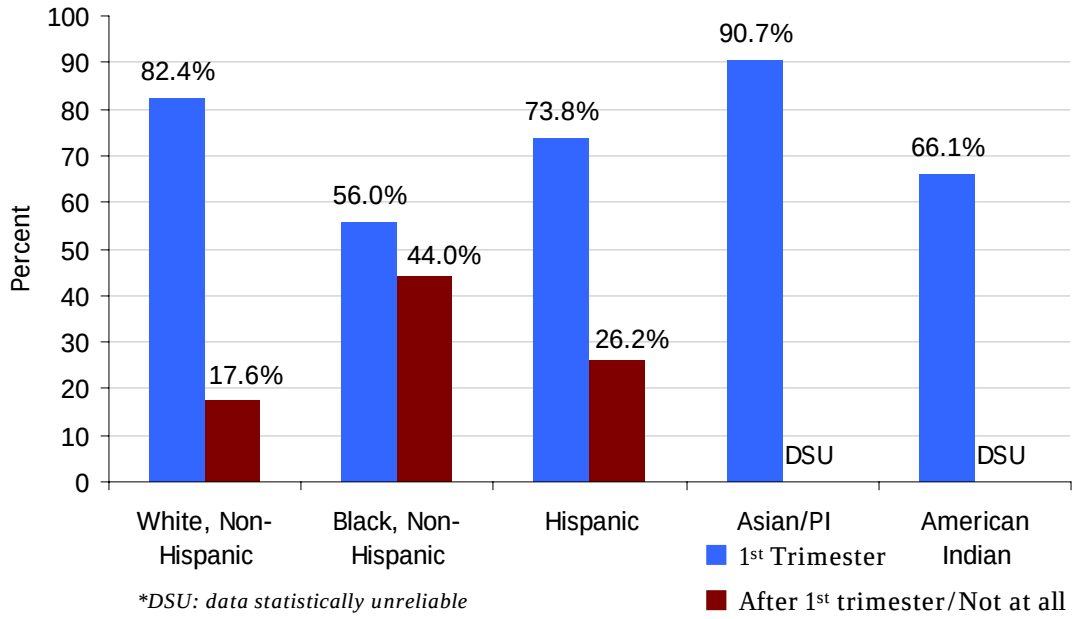
2002 MI PRAMS



Prenatal Care

Figure 37:

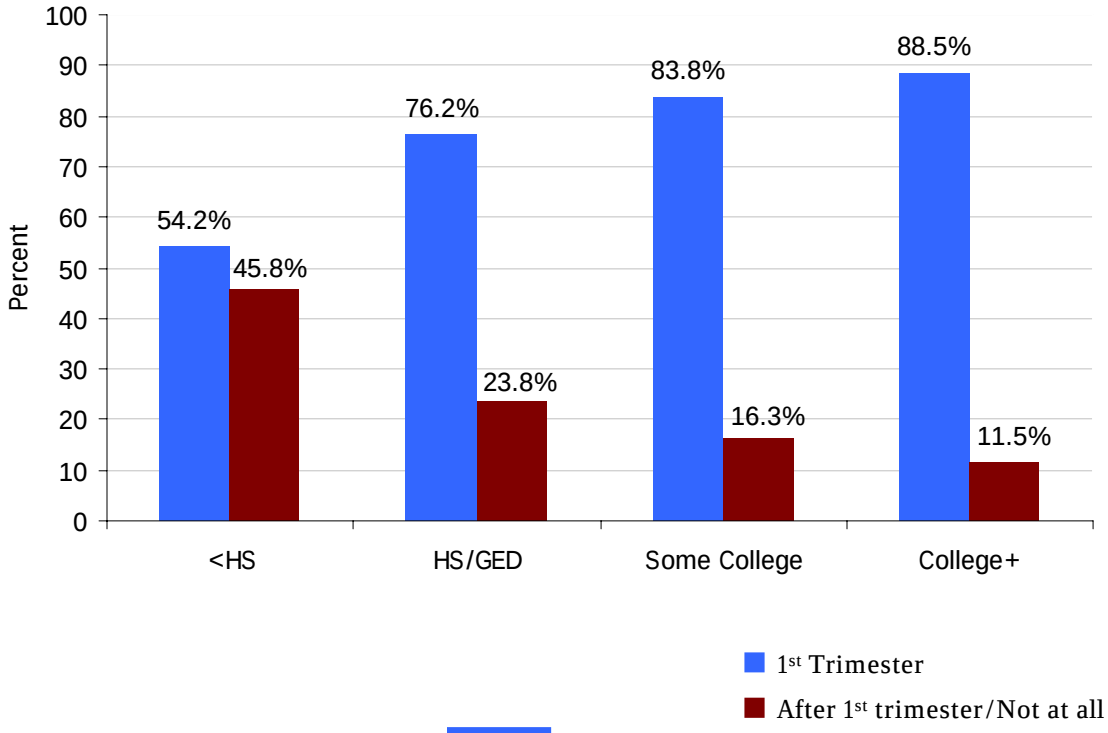
Entry into prenatal care after the first trimester or not at all by maternal race/ethnicity, 2002 MI PRAMS



DSU: data statistically unreliable

Figure 38:

Entry into prenatal care after the first trimester or not at all by maternal education, 2002 MI PRAMS



Prenatal Care

Figure 39:

Entry into prenatal care after the first trimester or not at all by pre-pregnancy insurance status, 2002 MI PRAMS

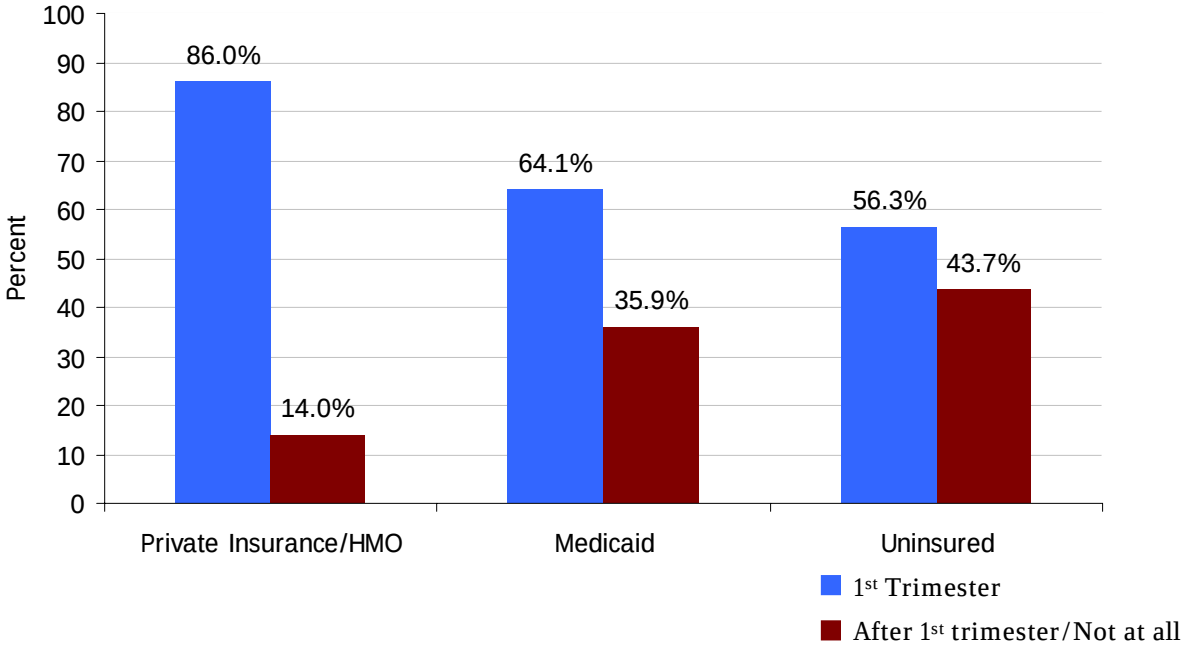
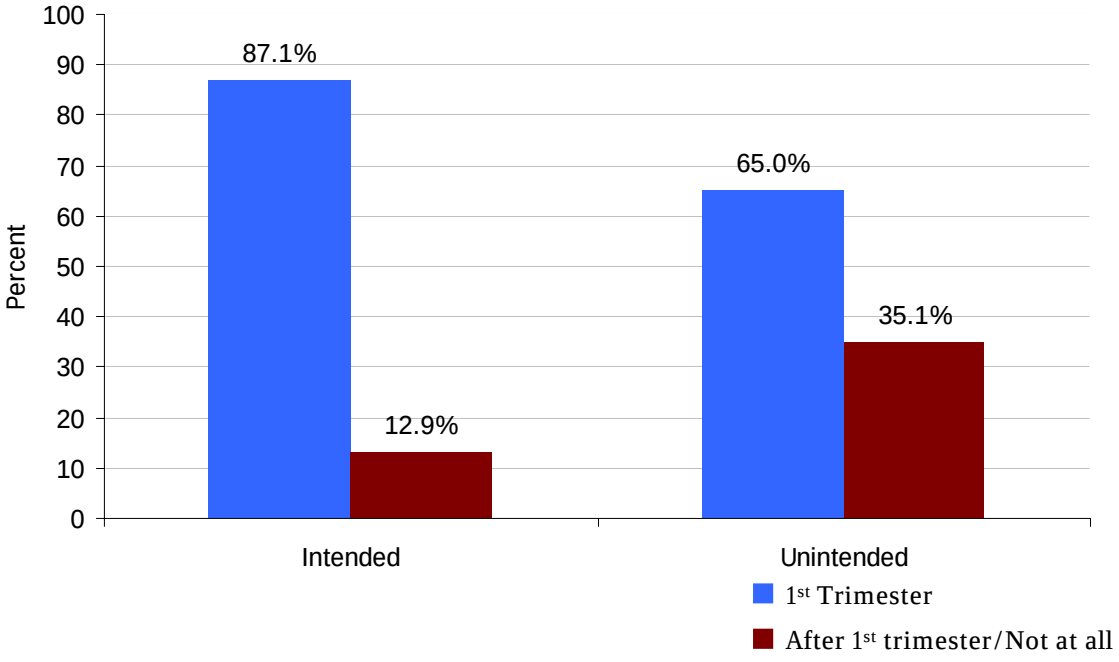


Figure 40:

Entry into prenatal care by pregnancy intention, 2002 MI PRAMS

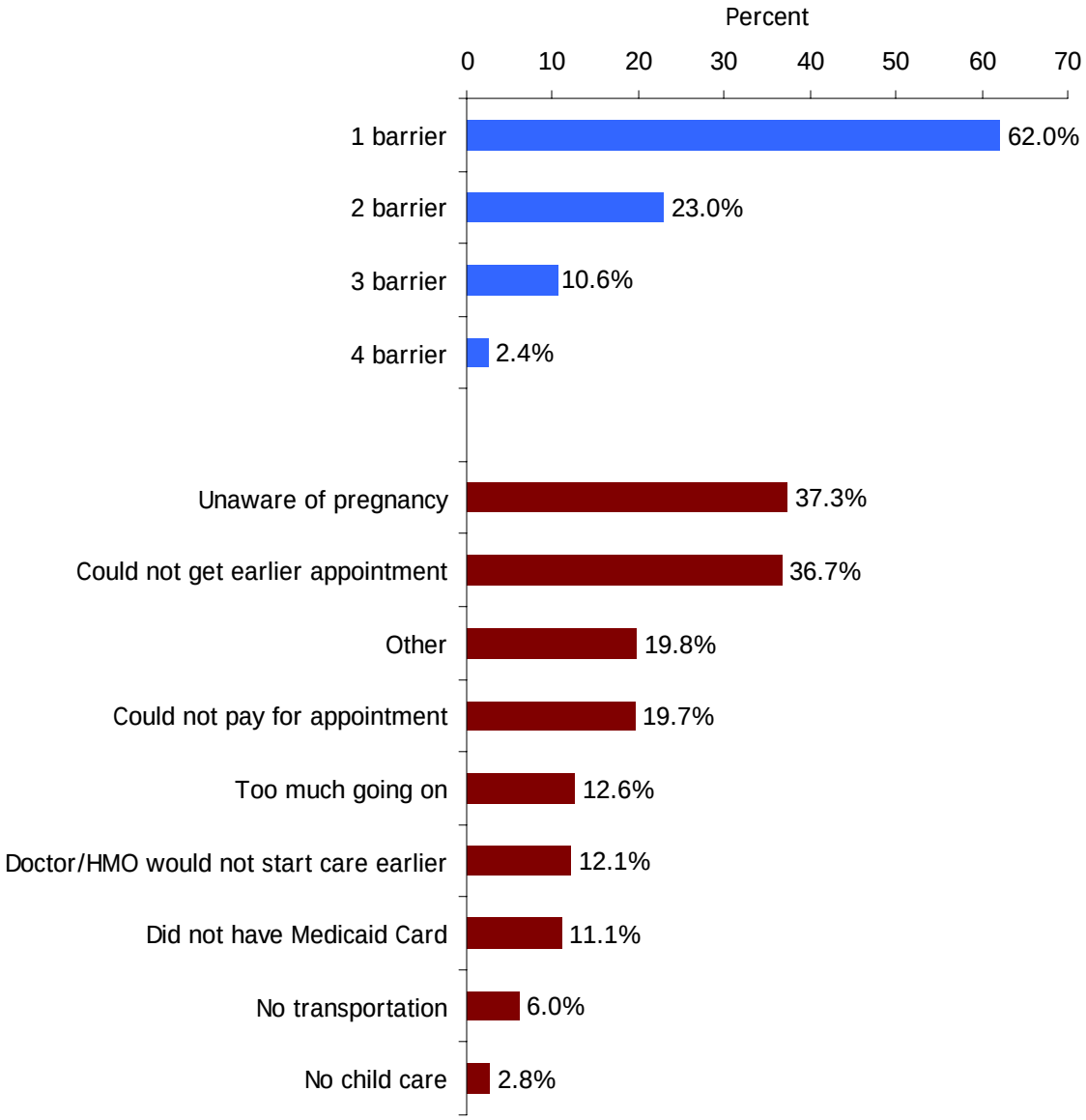


Prenatal Care

Figure 41:

Number and type of barriers to prenatal care,

2002 MI PRAMS



Prenatal Care

Figure 42:

Prevalence of prenatal care providers,

2002 MI PRAMS

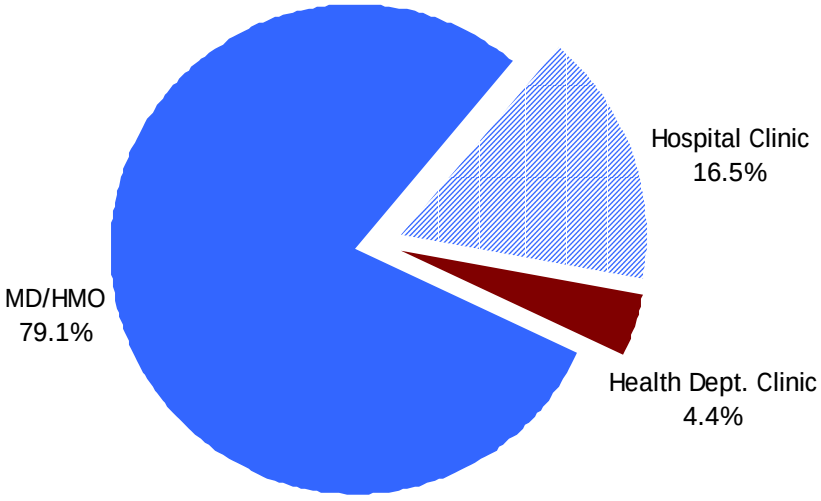
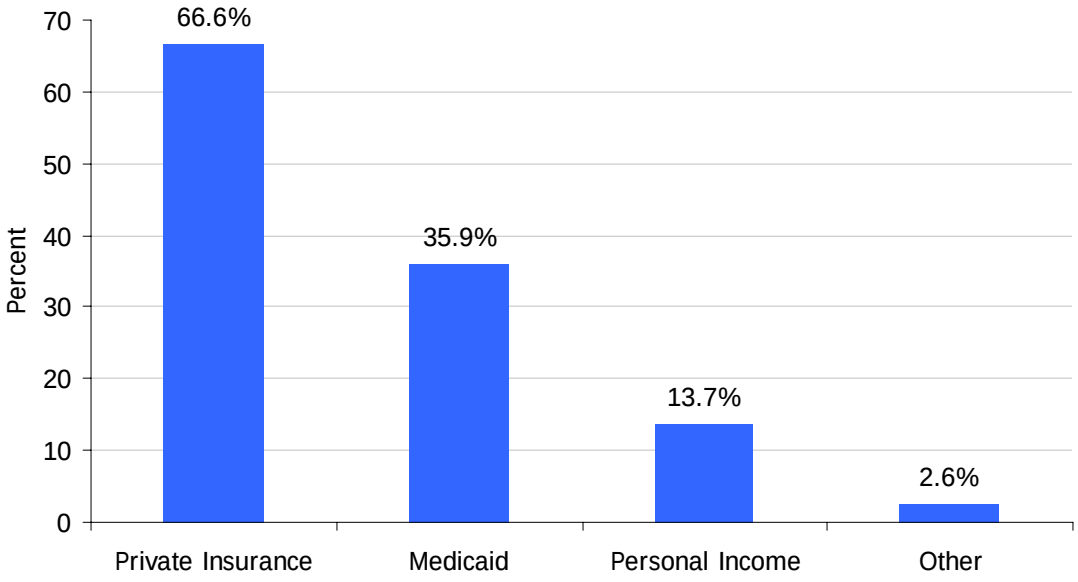


Figure 43:

Sources of payment for prenatal care,

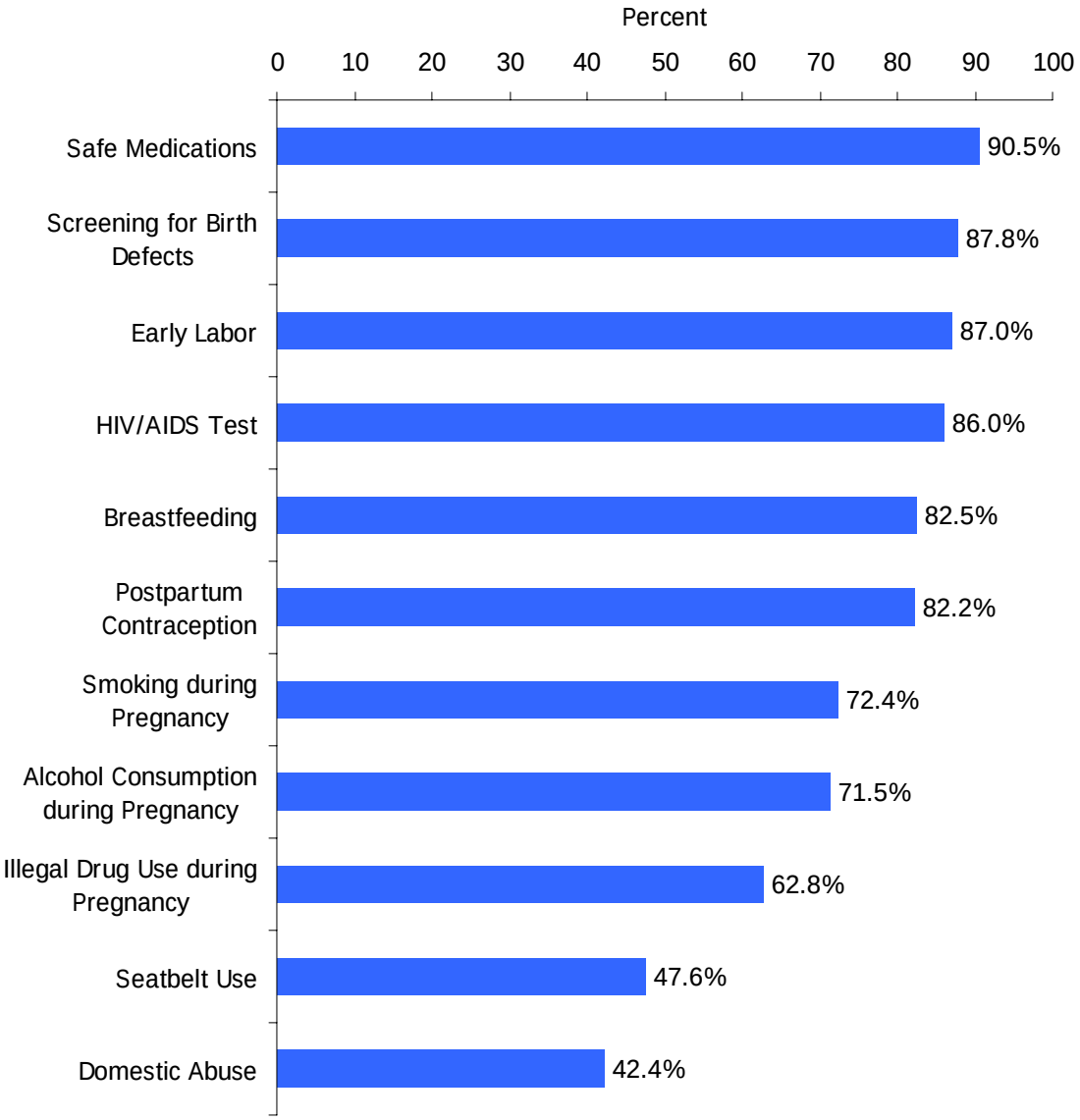
2002 MI PRAMS



Prenatal Care

Figure 44:

Topics discussed with a health care professional during prenatal care,
2002 MI PRAMS



Breastfeeding

Definition:

Seven questions in the phase 4 PRAMS questionnaire address the topic of breastfeeding. The following question gathers information on breastfeeding intention.

Question #46: During your most recent pregnancy, what did you think about breastfeeding your new baby?

_I knew I would breastfeed
_I thought I might breastfeed
_I knew I would not breastfeed
_I didn't know what to do about breastfeeding

Women who responded that they knew they were going to breastfeed were considered, "intending to breastfeed." Women who responded that they were not going to breastfeed were classified as, "intending not to breastfeed." Women who either thought they may breastfeed or didn't know what to do about breastfeeding were classified as being "unsure about breastfeeding".

Information regarding breastfeeding initiation and duration was derived from questions #47, #49, #51, and #52.

Question #47: Did you ever breastfeed or pump breast milk to feed your new baby after delivery?

_No
_Yes

Those who answered No to question #47 were asked:

Question #48: What were your reasons for not breastfeeding your new baby?

_I had other children to take care of
_I had too many household duties
_I didn't like breastfeeding
_I didn't want to be tied down
_I was embarrassed to breastfeed
_I went back to school or work
_My husband or partner didn't want me to breastfeed
_I wanted my body back to myself
_Other

Those who answered Yes to question #47 were asked:

Question #49: Are you still breastfeeding or feeding pumped breast milk to your new baby?

_No
_Yes

Those who answered No to question #49 were asked:

Question #50: What were your reasons for stopping breastfeeding?
_My baby had difficulty nursing
_Breast milk alone did not satisfy my baby
_I thought my baby was not gaining enough weight
_My baby became sick and could not breastfeed
_My nipples were sore, cracked, or bleeding
_I thought I was not producing enough milk
_I had too many household duties
_I felt it was the right time to stop breastfeeding
_I became sick and could not breastfeed
_I went back to work or school
_My husband or partner wanted me to stop breastfeeding
_Other
Question #51: How many weeks or months did you breastfeed or pump breast milk to feed your baby?
 _# weeks
 _# months
_Less than 1 week
Question #52: How old was your baby the first time you fed him or her anything besides breast milk (Include formula, baby food, juice, cow's milk, water, sugar water, or anything else you feed your baby)?
 _# weeks
 _# months
_My baby was less than a week old
_I have not fed my baby anything besides breastmilk

Results:

More than half (56.4%) of pregnant women planned on breastfeeding their infant, 15.9% thought that they may breastfeed, and 23.1% planned on not breastfeeding their infant (Figure #45). At the time surveyed (approximately four to six months postpartum), 33.2% of women were still breastfeeding their infant and 32.4% of women breastfed for greater than a week, but had stopped by the time of the survey. Also, women who did not breast feed their infant comprised almost another third (30.8%) and 3.6% breastfed for less then a week (Figure #46).

Breastfeeding was directly correlated with maternal age and educational status. Only 59% of women <18 years and 38% of women 19-19 years breastfed ever, while over 70% of women over 24 years breastfed (Figure #47). Further, Black, Non-Hispanic women had the lowest rate with only 59.5% of women reporting breastfeeding ever (Figure #48). In addition, 46.9% of women without a high school degree reported breastfeeding compared to 86.5% of women with a college degree or higher (Figure #49).

A small difference in breastfeeding duration was noted when duration was analyzed by age. Women younger than 18 reported breastfeeding for 6.5 weeks while women between 30-39 reported breastfeeding approximately 8.5 weeks (Figure #50). There are differences in the breastfeeding status among different race/ethnic groups. Asian/Pacific Islander women reported breastfeeding their infant for approximately 13.1 weeks, followed by Hispanic women with 8.1 weeks duration (Figure #51). In addition, women with a college education reported breastfeeding their infants for the longest at 9.4 weeks while women with a high school

degree/GED breastfed for the shortest period at 6.9 weeks (Figure #52). Mother did not like breastfeeding (41.1%), needing to care for other children (27.7%), and returning to school/work (27.3%), were the most common barriers to breastfeeding (Figure #53). Other barriers include embarrassed about breastfeeding and wanted their body back. The most frequently reported barriers to continuing breastfeeding were mother thought breast milk alone did not satisfy infant (32.5%), thought she was not producing enough milk (31.7%), had to return to work/school (25.0%), and the infant had difficulty nursing (24.4%) (Figure #54). Other reasons for discontinuing breastfeeding were nipples were sore and cracked, too many household duties, and the mother felt it was time to discontinue breastfeeding.

Public Health Implications:

Prenatal care providers and health care workers should continue to engage all pregnant mothers in a discussion of the benefits of breastfeeding. Their efforts should be mainly targeted to the groups in which breastfeeding is less prevalent such as Black, Non-Hispanic, as well as women who are less than twenty, over the age of forty, and women without high school diplomas. Lactation consultants should be made available to all new mothers in the hospital to give assistance and information to help them through the first crucial days.

One in five women who gave birth thought they might breastfeed, but were undecided, especially because of the potential implications that it might have on their personal and social life. We could conclude that breastfeeding conversations throughout pregnancy, and exposure to breastfeeding in prenatal groups and other venues may help gain community acceptance for breastfeeding. Communities can promote breastfeeding-friendly workplaces, parks, day-care centers, and other facilities to promote the practice.

Postpartum care which supports breastfeeding should continue after the woman returns home from the hospital so that the most common identified barriers for breastfeeding can be addressed.

Reference Tables: #24- #30

Breastfeeding

Figure 45:

Pre-delivery breastfeeding planning,

2002 MI PRAMS

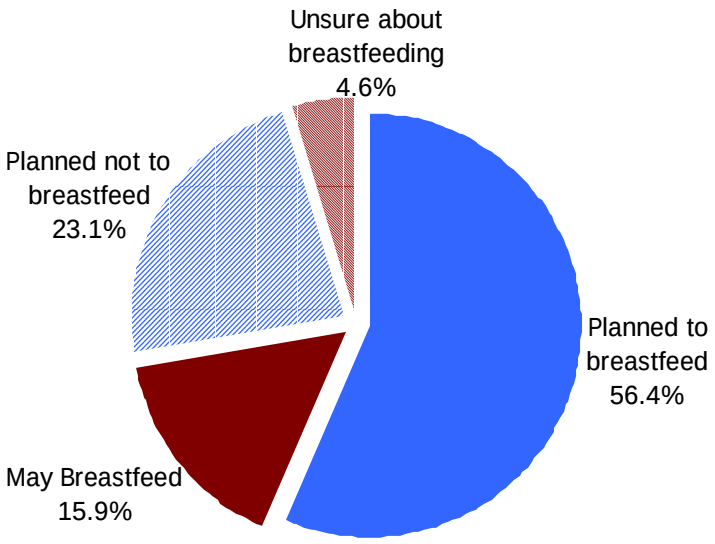
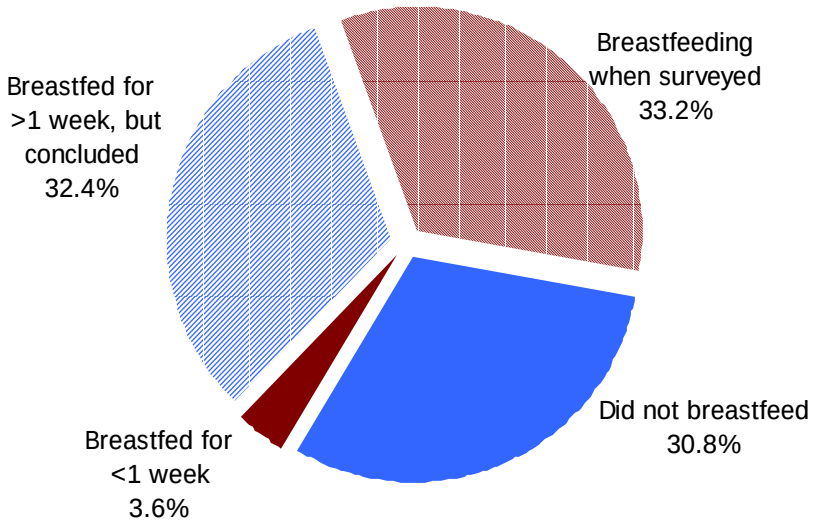


Figure 46:

Prevalence of breastfeeding behavior,

2002 MI PRAMS



Breastfeeding

Figure 47:

Prevalence of women who breastfed ever by maternal age,

2002 MI PRAMS

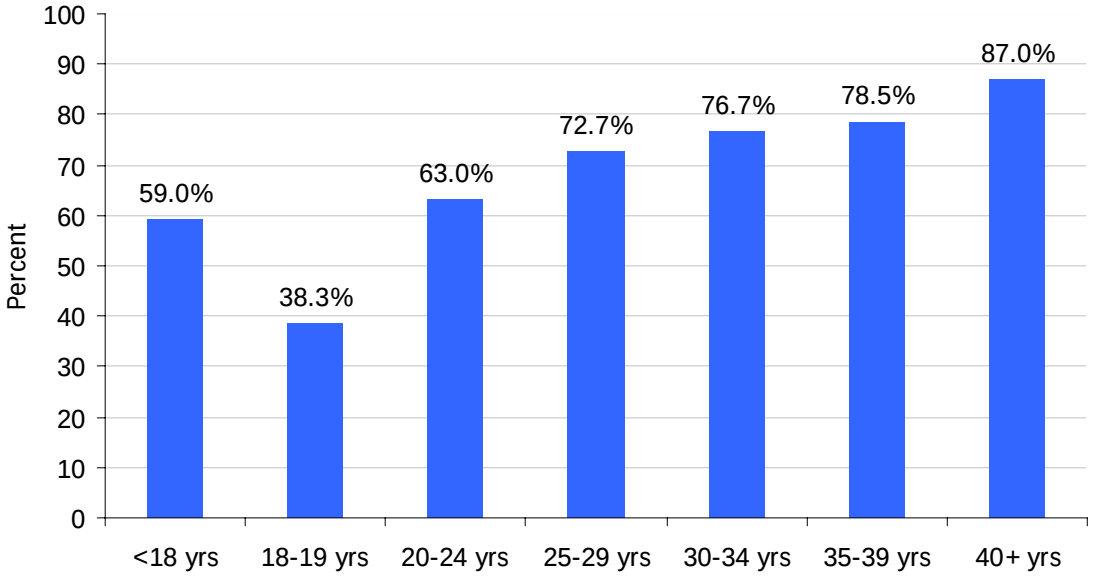
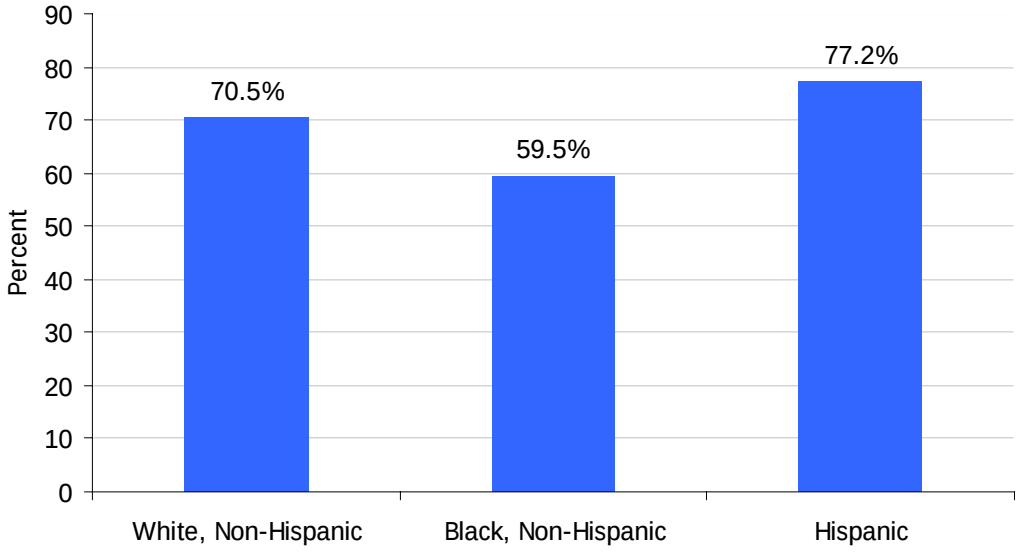


Figure 48:

Prevalence of women who breastfed ever maternal race/ethnicity,

2002 MI PRAMS



*Statistics for 'American Indian/Alaskan Native' and 'Asian/Pacific Islander' omitted due to small sample size.

Breastfeeding

Figure 49:

Prevalence of women who did breastfed ever by maternal education,

2002 MI PRAMS

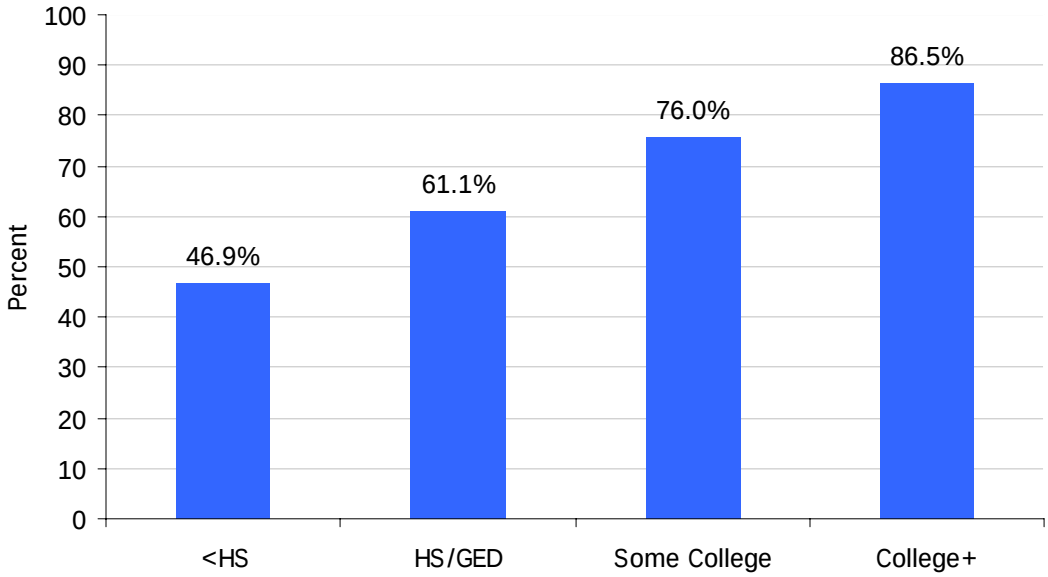
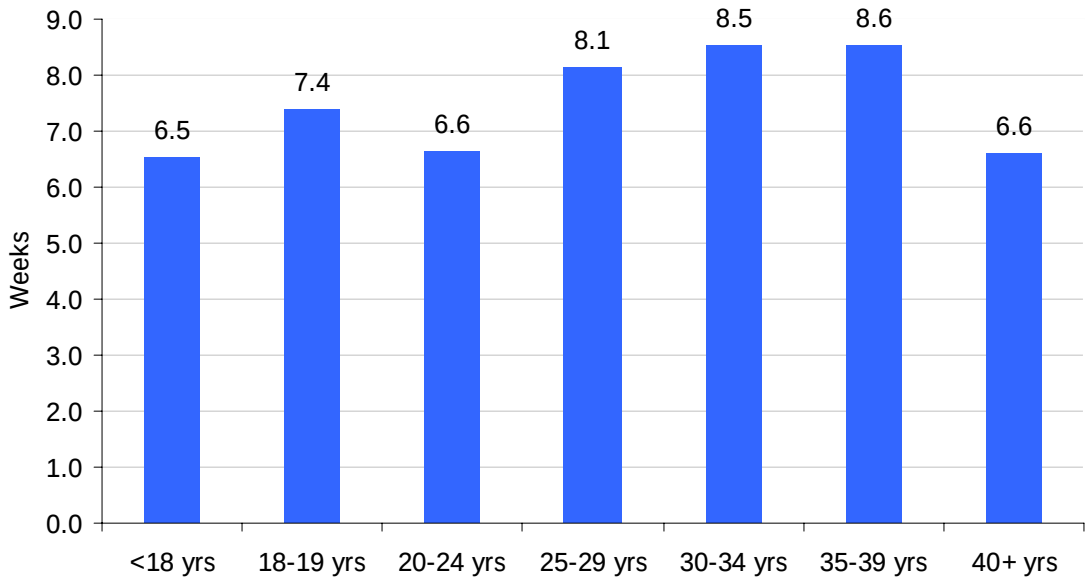


Figure 50:

Average breastfeeding duration, among women who breastfed for longer than a week, but discontinued breastfeeding before surveyed by maternal age,

2002 MI PRAMS

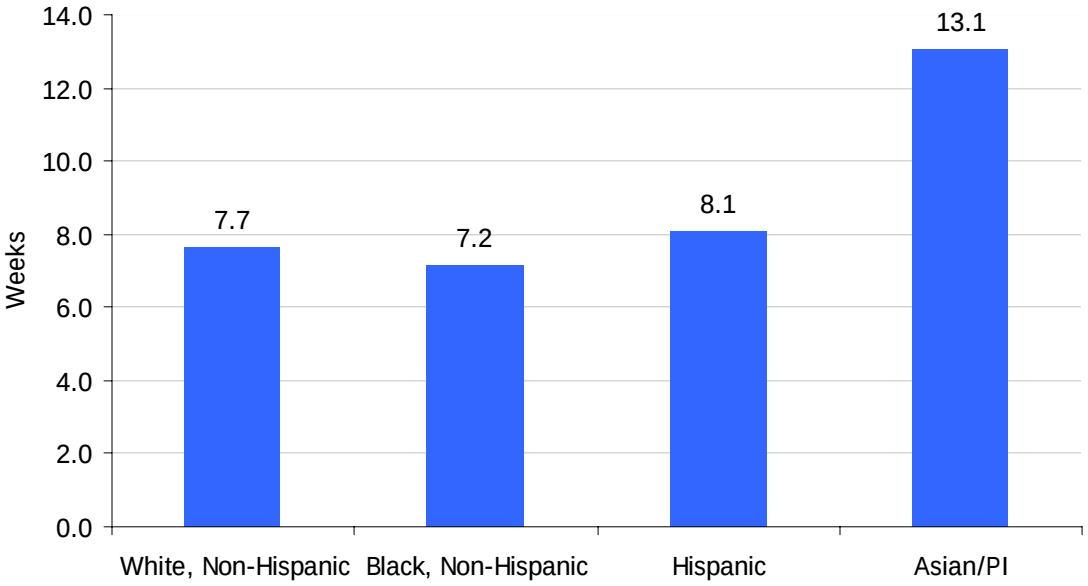


Breastfeeding

Figure 51:

Average breastfeeding duration, among women who breastfed for longer than a week, but discontinued breastfeeding before surveyed, by maternal race/ethnicity,

2002 MI PRAMS

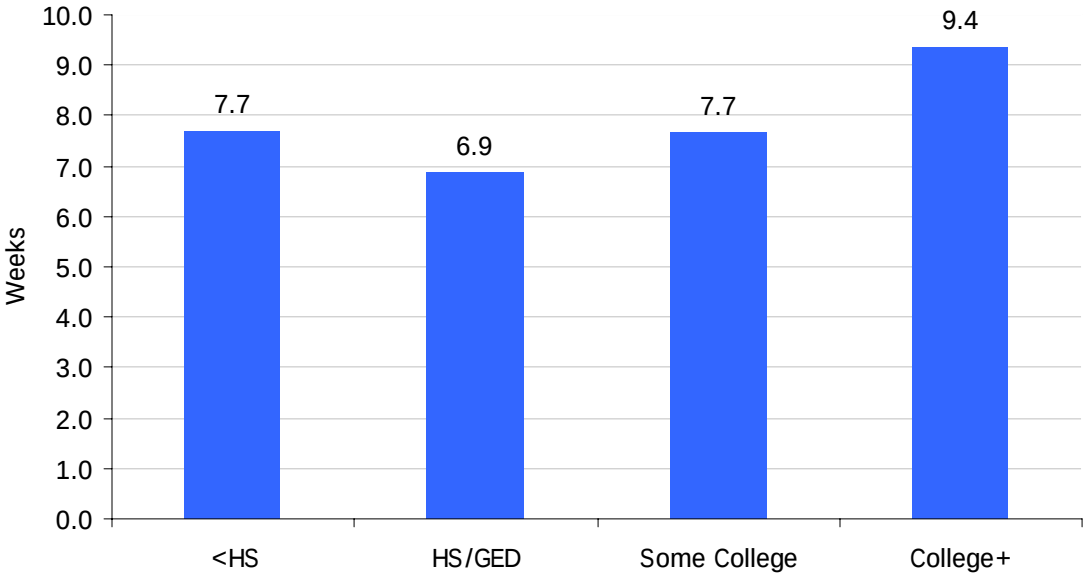


**Statistics for 'American Indian/Alaskan omitted due to small sample size.*

Figure 52:

Average breastfeeding duration, among women who breastfed for longer than a week, but discontinued breastfeeding before surveyed, by maternal education,

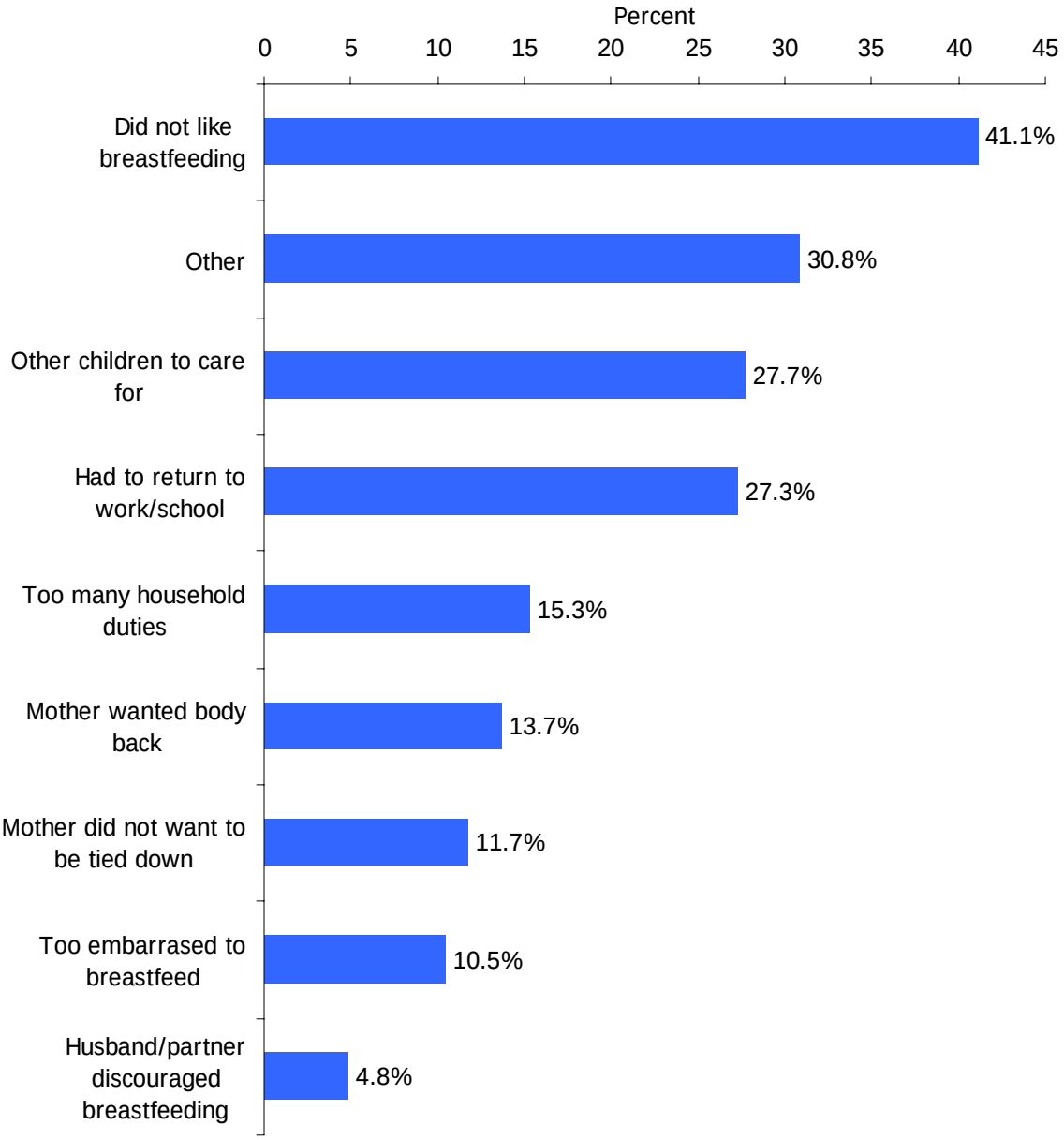
2002 MI PRAMS



Breastfeeding

Figure 53:

Barriers to breastfeeding initiation among women who never breastfed, 2002 MI PRAMS

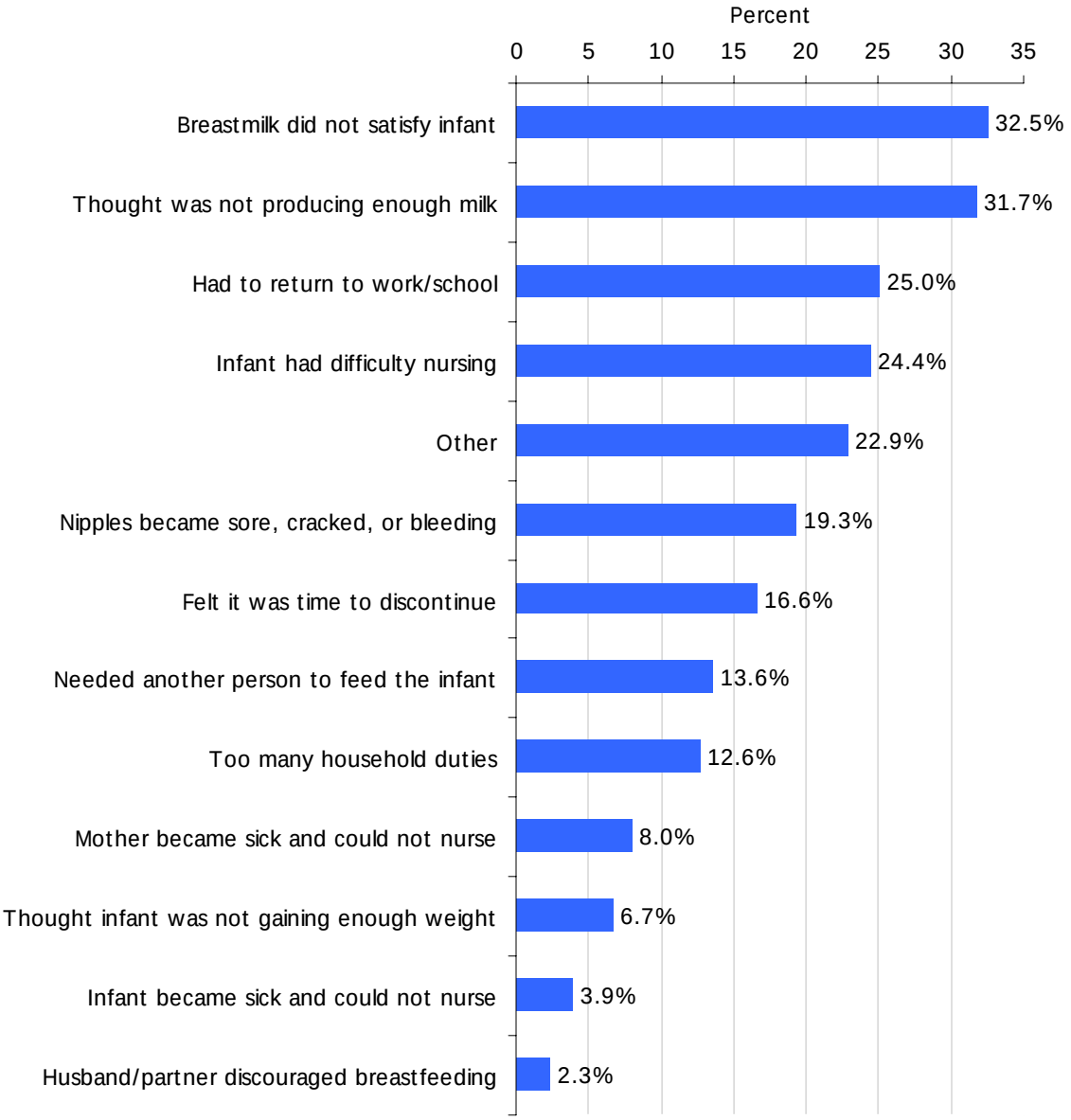


Breastfeeding

Figure 54:

Barriers to breastfeeding continuation among women who breastfed for longer than a week, but discontinued breastfeeding before surveyed,

2002 MI PRAMS



Substance Abuse: Tobacco

Definition:

An initial question, question #25, was asked to differentiate women who have recently smoked and women who had not.

Question #25: Have you smoked at least 100 cigarettes in the past 2 years?
_No
_Yes

Women who answered 'No' to question #25 skipped the rest of the maternal smoking questions. Women who answered 'Yes' to question #25 were asked the following three questions:

Question #26: In the 3 months before you got pregnant, how many cigarettes or packs of cigarettes did you smoke on an average day? (a pack has 20 cigarettes)
 _# Cigarettes
 _# Packs
_ Less than 1 cigarette a day
_I didn't smoke
_I don't know
Question #27: In the last 3 months of your pregnancy, how many cigarettes or packs of cigarettes did you smoke on an average day?
 _# Cigarettes
 _# Packs
_ Less than 1 cigarette a day
_I didn't smoke
_I don't know
Question #28: How many cigarettes or packs of cigarettes do you smoke on an average day now?
 _# Cigarettes
 _# Packs
_ Less than 1 cigarette a day
_I didn't smoke
_I don't know

A nonsmoker is defined as a woman who was not smoking during either period of time including women who answered no to question #25. A smoker who quit was a woman who indicated that she smoked during the initial time period, but was not smoking during the second time period. A smoker (reduced # cigarettes) was a woman who indicated that she smoked during the initial time period, but reduced the number of cigarettes in the second period. A smoker (# cigarettes same or more) is defined as a woman who indicated that she smoked during the initial time period, but maintained or increased the number cigarettes in the second period. Nonsmoker who began smoking was a woman who reported not smoking during the first time period, but who indicated smoking in the second. When analyzing women who smoked in the last three months of their pregnancy, women who indicated that they did not smoke then or who indicated that they did not smoke at all were categorized as not smoking in the last three months of their pregnancy. Women who reported smoking cigarettes, regardless of the amount, were classified as smokers. Smoking behaviors were compared as such: during pregnancy with behavior before pregnancy, postpartum behavior with smoking during pregnancy, or postpartum behavior with pre-pregnancy behavior.

Results:

The majority of PRAMS respondents (71.2%) reported being a nonsmoker. Among the women who had reported being a smoker prior to pregnancy, 11.5% had quit, 12.0% reduced the number of cigarettes, and the remaining did not change or increased the number of cigarettes consumed during pregnancy (Figure #55). In the last three months of pregnancy, women in their late teens/early 20's were the most likely to report smoking, with 43.7% of women between the ages of 18-19 years reporting the highest rate. Women older than 24 years had lower prevalence rates of smoking during pregnancy, which ranged from 10.2% to 14.6% (Figure #56). Non-Hispanic Whites were the most likely to report smoking in the last three months of pregnancy (Figure #57). Like many of the other risk factors analyzed in this report, smoking rates had an inverse relationship to education: women without a high school degree had the highest prevalence of smoking in the last three months of pregnancy (32.0%), while women with at least a college degree had the lowest (2.5%) (Figure #58). In addition, women who were on Medicaid at any time had a higher rate of smoking during pregnancy when compared to women who had never received Medicaid (Figure #59).

Smoking reduction during pregnancy does not usually equate to a permanent decline. While a majority of women remained non-smokers during pregnancy, 14.3% reported that they smoked the same amount or more cigarettes after their pregnancy when compared to their pre-pregnancy behavior. Further, a small group of individuals (0.5%) who were previously categorized as non-smokers prior to pregnancy began smoking in the postpartum (Figure #60).

Public Health Implications:

It is well known that smoking during pregnancy has negative effects on infant birthweight. Therefore smoking cessation programs should be offered as components of the prenatal visits as well as family planning visits during the preconceptional period, following the "Stages of Change" model developed by Dr. James Prochaska[1].

Although the majority of women reported not smoking in the third trimester, an unacceptably high percentage of women continued to smoke. The cessation programs should target women found more likely to smoke such as less than 20 years of age, Non-Hispanic Whites, Medicaid participants, and women with less than a high school diploma.

The risk of relapsing remains an issue. Among women surveyed, smokers who had quit during pregnancy tended to relapse during the postpartum period. Therefore, the smoking cessation programs should continue to encourage the participants and thus lead to permanently quit smoking.

Reference Tables: #31- #36

[1]Prochaska JO, DiClemente CC. Stages and processes of self-change of smoking: Toward an integrative model of change. *Journal of Consulting and Clinical Psychology*. 1983; 51(3): 390-395.

Substance Abuse: Tobacco

Figure 55:

Prevalence of smoking behavior during pregnancy (compared with pre-pregnancy behavior), 2002 MI PRAMS

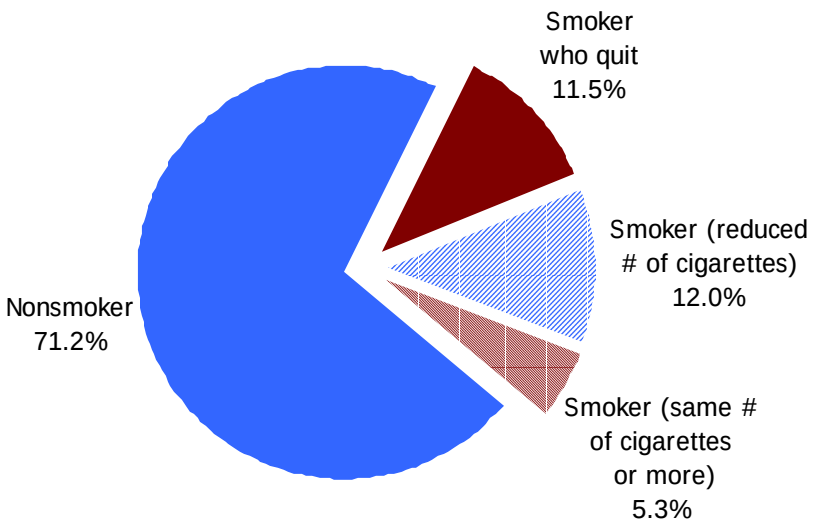
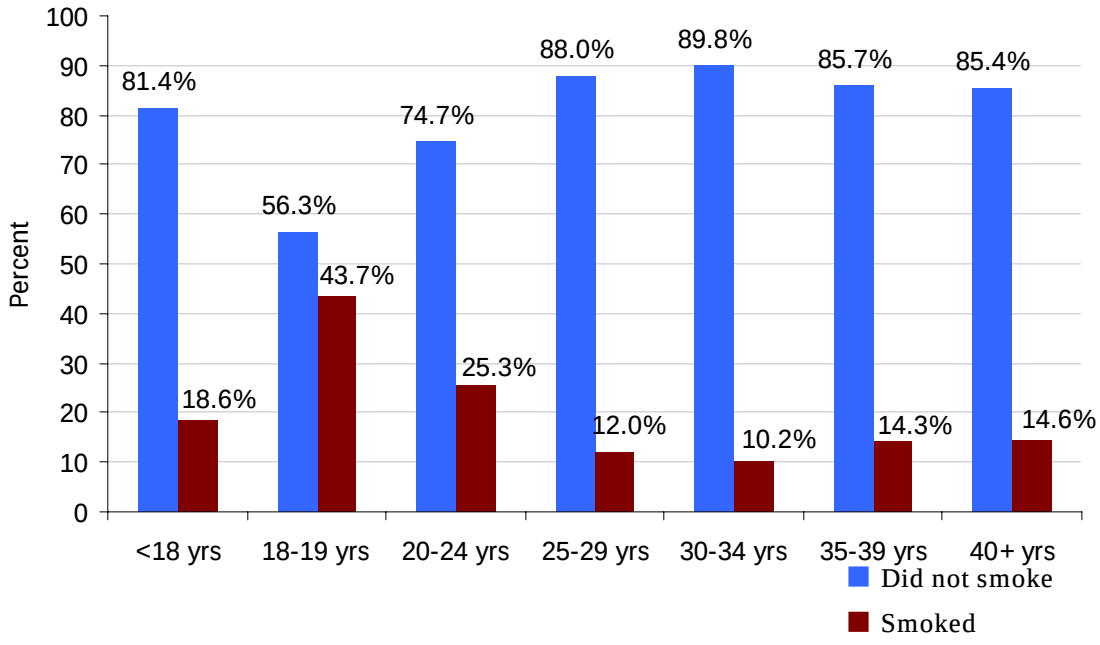


Figure 56:

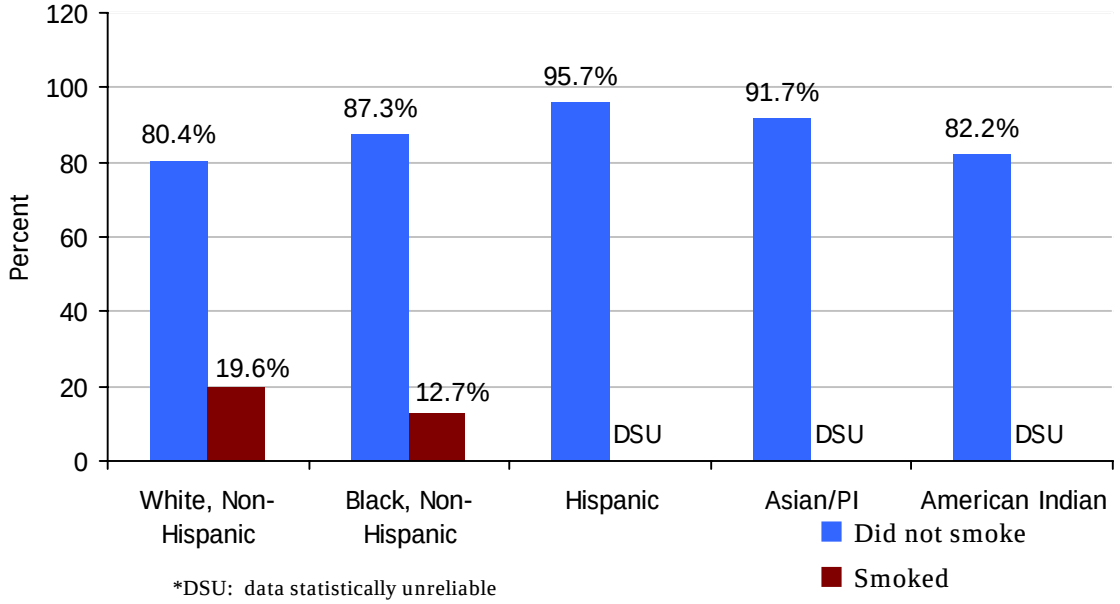
Prevalence of smoking status in the last three months of pregnancy by maternal age, 2002 MI PRAMS



Substance Abuse: Tobacco

Figure 57:

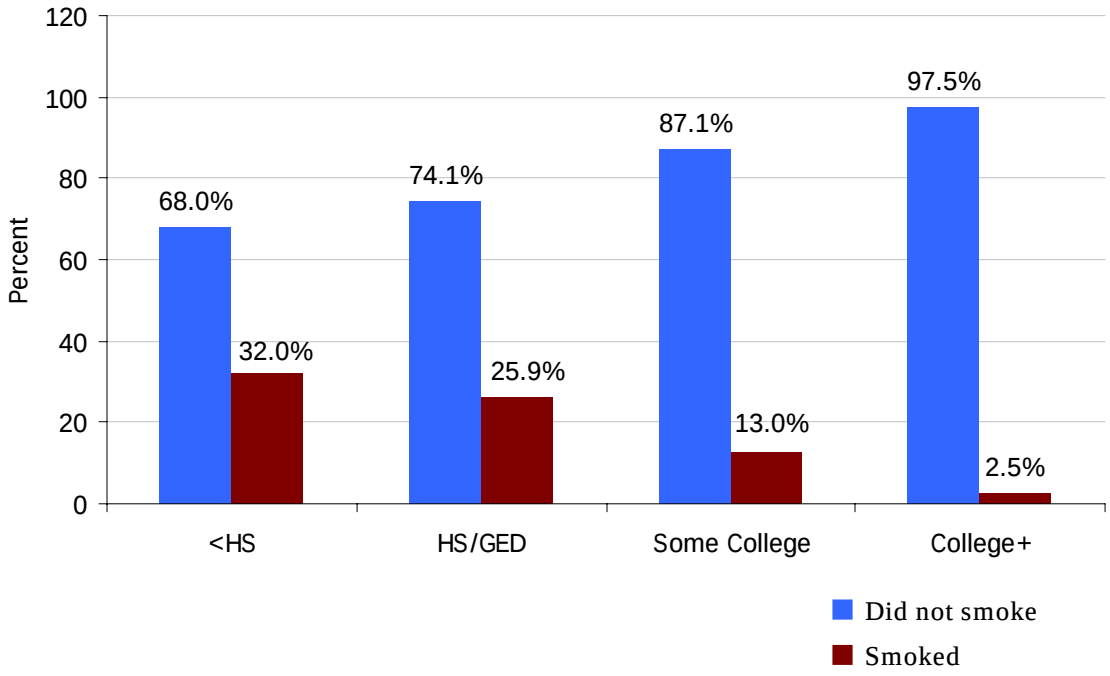
Prevalence of smoking behavior in the last three months of pregnancy by maternal race/ethnicity, 2002 MI PRAMS



*DSU: data statistically unreliable

Figure 58:

Prevalence of smoking behavior in the last three months of pregnancy by maternal education, 2002 MI PRAMS



Substance Abuse: Tobacco

Figure 59:

Prevalence of smoking in the last three months of pregnancy by Medicaid participation, 2002 MI PRAMS

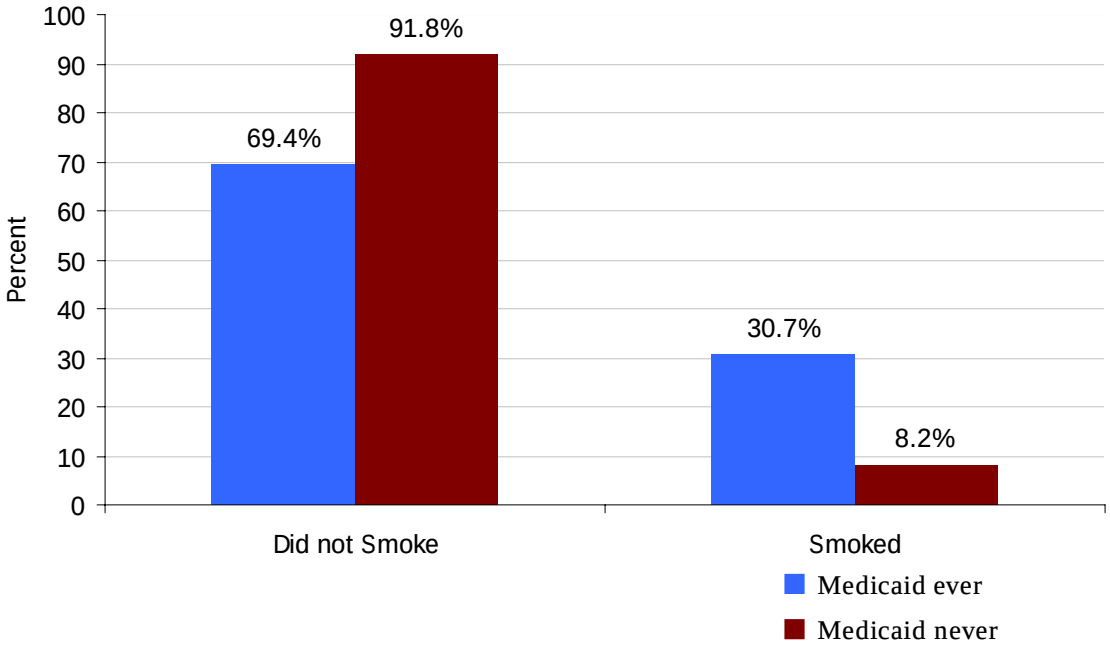
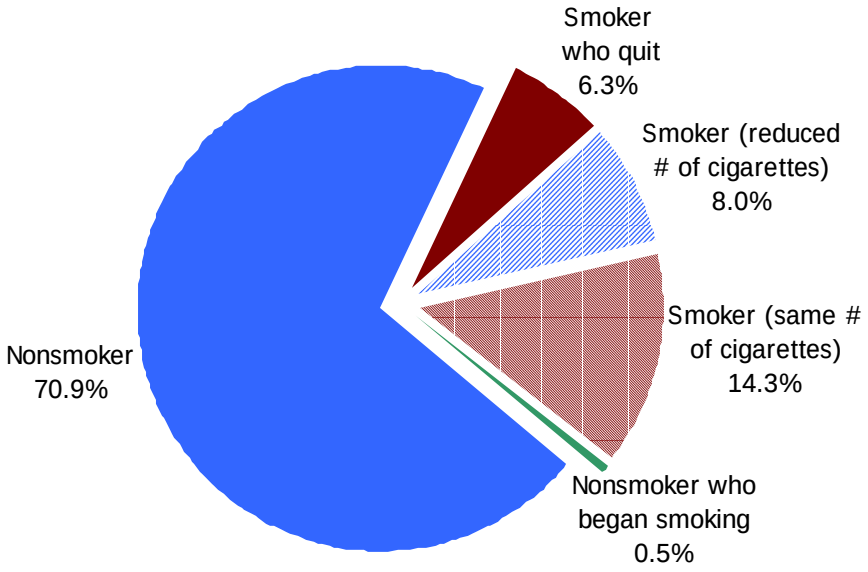


Figure 60:

Prevalence of smoking behavior in the postpartum period (compared with pre-pregnancy behavior), 2002 MI PRAMS



Substance Abuse: Alcohol Use

Definition:

Information on alcohol consumption and binge drinking are the focus of five questions on the PRAMS questionnaire. Question #29 was used to screen for drinking behavior.

> *Question #29: Have you had any alcoholic drinks in the past 2 years? (a drink is one glass of wine, wine cooler, can or bottle of beer, shot of liquor, or mixed drink)*
> *_No*
> *_Yes*

Women who responded 'No' to that question skipped the rest of the alcohol consumption questions. Women who responded 'Yes' were asked the following questions:

> *Question #30a: During the 3 months before you got pregnant, how many alcoholic drinks did you have in an average week?*
> *_I didn't drink then*
> *_Less than 1 drink a week*
> *_1-3 drinks a week*
> *_4-6 drinks a week*
> *_7-13 drinks a week*
> *_14 drinks or more a week*
> *_I don't know*
> *Question #30b: During the 3 months before you got pregnant, how many times a week did you drink 5 alcoholic drinks or more in one sitting?*
> *_# Times*
> *_I didn't drink then*
> *_I don't know*
> *Question #31a: During the last 3 months of your pregnancy, how many alcoholic drinks did you have in an average week?*
> *_I didn't drink then*
> *_Less than 1 drink a week*
> *_1-3 drinks a week*
> *_4-6 drinks a week*
> *_7-13 drinks a week*
> *_14 drinks or more a week*
> *_I don't know*
> *Question #31b: During the last 3 months of your pregnancy, how many times a week did you drink 5 alcoholic drinks or more in one sitting?*
> *_# Times*
> *_I didn't drink then*
> *_I don't know*

Results:

During pregnancy, a majority of women reported not drinking during pregnancy, with 52.4% of women being drinkers who quit and 43.2% of women being non-drinkers. Among the few women who reported drinking during pregnancy, 2.1% reported consuming a reduced number of alcoholic beverages and 2.3% indicated drinking the same number of drinks (Figure #61). Due to the small sample size, drinking behavior was not further stratified by maternal demographics.

Public Health Implications:

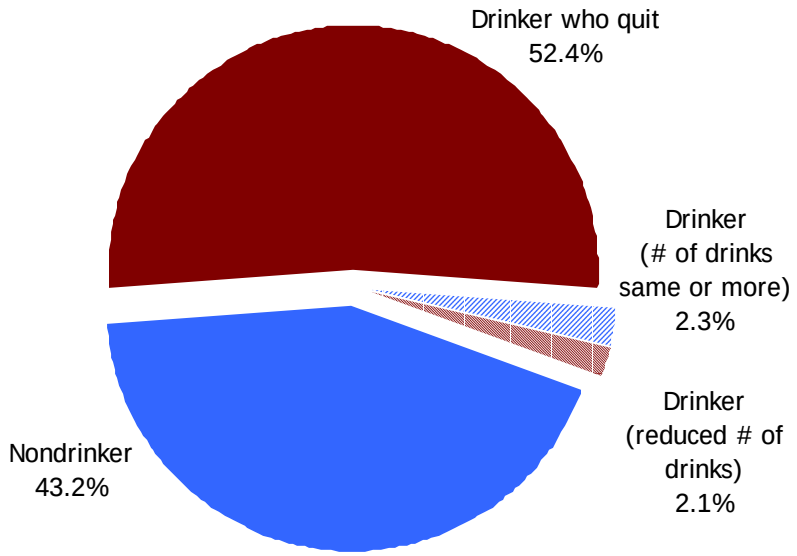
Regardless of the amount of alcohol consumed during pregnancy, the fetus is at an increased risk of Fetal Alcohol syndrome (FAS) at birth. Preconceptional and prenatal education should continue to focus on reducing the risks of this syndrome and the other health effects of drinking during pregnancy. Simple assessment tools such as the T-ACE to identify risk drinking among pregnant women can be used by all prenatal care providers in clinical settings.
The Michigan Fetal Alcohol Syndrome program provides education about FAS to women of childbearing age with the following goals: to increase awareness and prevention of FAS, make outreach, screening, and referrals for diagnostic services easier, and provide therapeutic and social support for families with children with FAS.

Reference Tables: #37

Substance Abuse: Alcohol

Figure 61:

Prevalence of alcohol consumption during pregnancy (compared with pre-pregnancy behavior), 2002 MI PRAMS



*Nondrinker who began drinking omitted due to small sample size

Infant Sleep

Definition:

Information regarding infant sleeping behavior is captured by two questions: one addresses sleeping position and the other addresses bed sharing. Bed sharing is defined as infants sharing the same sleep surface as another person. Question #54, asks women whose infants were alive at the time the survey was administered:

Question #54: How do you most often lay your baby down to sleep now?
_On his or her side
_On his or her back
_On his or her stomach

Details on bed sharing practice were also asked of women whose infants were alive at the time surveyed. This topic is addressed by the following:

Question #55: How often does your new baby sleep in the same bed with you or anyone else?
_Always
_Almost always
_Sometimes
_Rarely
_Never

Infants were classified as "Rarely/never bed shared" if mother responded that they never/rarely slept in the same bed with someone else. Mothers, who indicated that their infant sometimes bed shared, were classified as, "sometimes bed shared." Mothers of infants classified as "Always/almost always bed shared," were women who indicated that their infant always or almost always slept in the same bed with someone else.

Results:

The majority of PRAMS respondents, 71.0%, reported placing their infant to sleep on their back, 15.0% on their stomach, and 14.0% on their side (Figure #62). Over 70% of women between the ages of 20-34 reported placing their infant in the back sleeping position. However, women under 18 or over 40 years of age reported the lowest prevalence of placing infant in the back sleeping position (56.2% and 63.5% respectively) (Figure #63). Also, when stratified by race/ethnicity, the women least likely to place infants on their backs were Non-Hispanic Black at 55.9%. The prevalence rates for back sleeping position were all above 70% for Non-Hispanic Whites, Hispanics, and Asian/Pacific Islanders (Figure #64). The back sleeping position had the lowest prevalence among women with less than a high school education (64.7%), while women with a college degree were the most likely to place their infant to sleep on their backs (79.4%) (Figure #65). Women who had never been on Medicaid had a higher prevalence rate of placing infants in the back sleeping position when compared to women who have ever been on Medicaid (Figure #66).

Almost 60% of the PRAMS respondents report never/rarely bed sharing (Figure #67). Over 30% of women under 20 or over 40 report always/almost always bed sharing with infant. Women between 25-34 had a prevalence rate of less than 20% for always/almost always bed sharing (Figure #68). When stratified by race/ethnicity, Non-Hispanic Black and Asian/Pacific Islander had the highest rate of always/almost always bed sharing (49.7% and 43.7%,

respectively). Further, Non-Hispanic Whites have the lowest prevalence with 13.8% of women reporting always/almost always bed sharing (Figure #69). The prevalence of always/almost always bed sharing was inversely related to maternal education, with women with less than high school education possessing the highest prevalence, (36.0%) and women with a college education having the lowest rate (16.4%) (Figure #70).

Public Health Implications:

The "Back to Sleep" campaign begun in 1994 in Michigan has improved the behavior of many mothers to put infants to sleep on their back. However, the campaign needs to identify and address changes in the public health message, which will be more effective for women who are less than 20 years of age, Non-Hispanic Black and have less than a high school education. Also, MDCH should explore further the possibility of adding the "Back to Sleep" curriculum in the Michigan Model, School Health education and a strategy for working with teen health centers on safe sleep issues.

The new information gathered about the high prevalence of bed sharing in Michigan is a timely contribution to the planning for a statewide "Infant Safe Sleep" campaign sponsored by MDCH, MDHS, and MDE. A work group recently reported on the growing risk of sudden infant death associated with infants sleeping in unsafe arrangements. Important ethnic and age appropriate considerations are needed to adequately target younger women to avoid the accidental suffocation risk associated with bed sharing. The high prevalence of this risky behavior demands rigorous study of the reasons behind the numbers, including qualitative evaluation of women's stories.

Reference Tables: #38- #41b

Infant Sleep

Figure 62:

Prevalence of infant sleep position,

2002 MI PRAMS

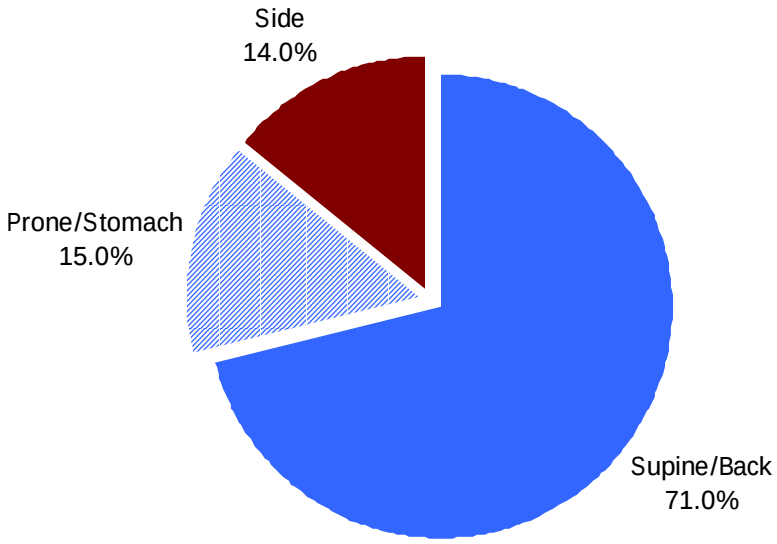
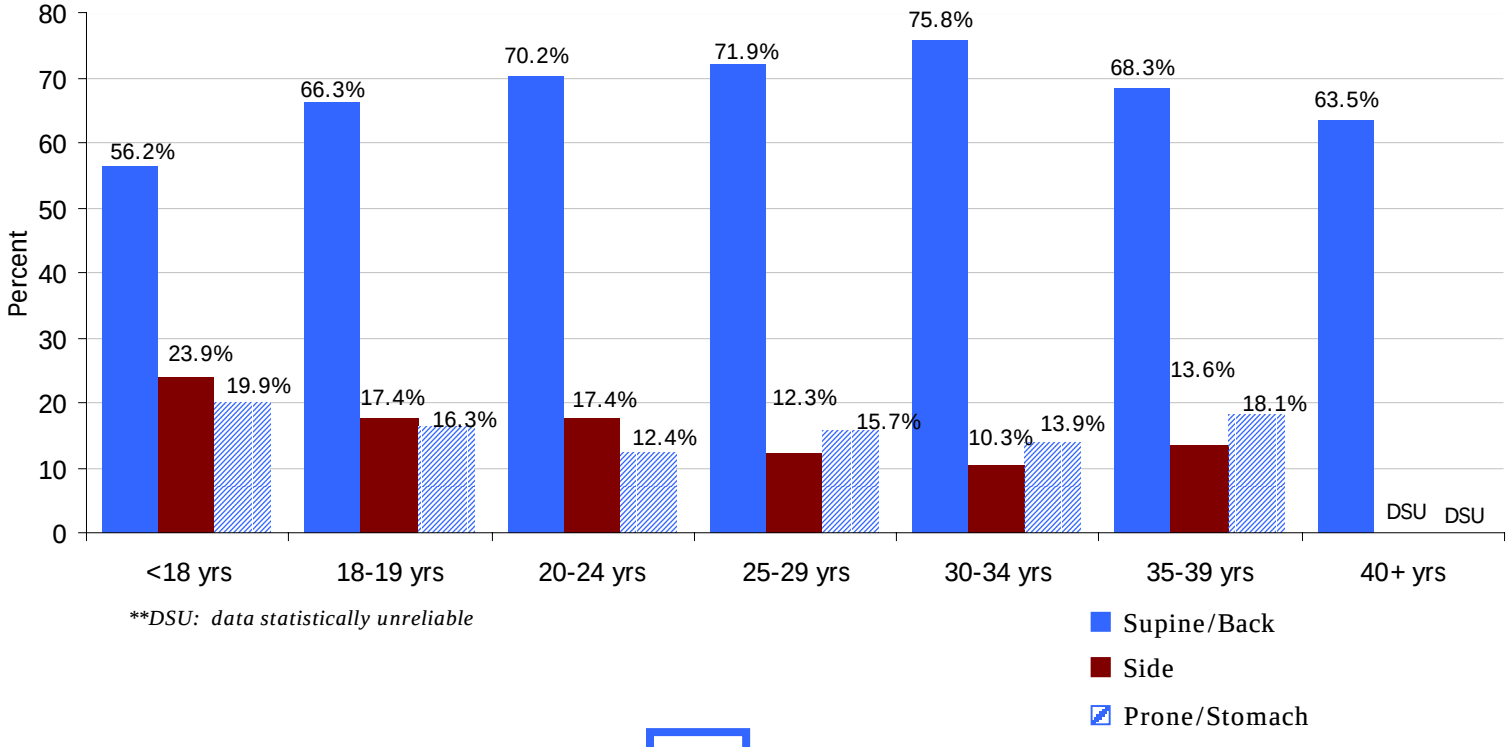


Figure 63:

Prevalence of infant sleep position by maternal age,

2002 MI PRAMS

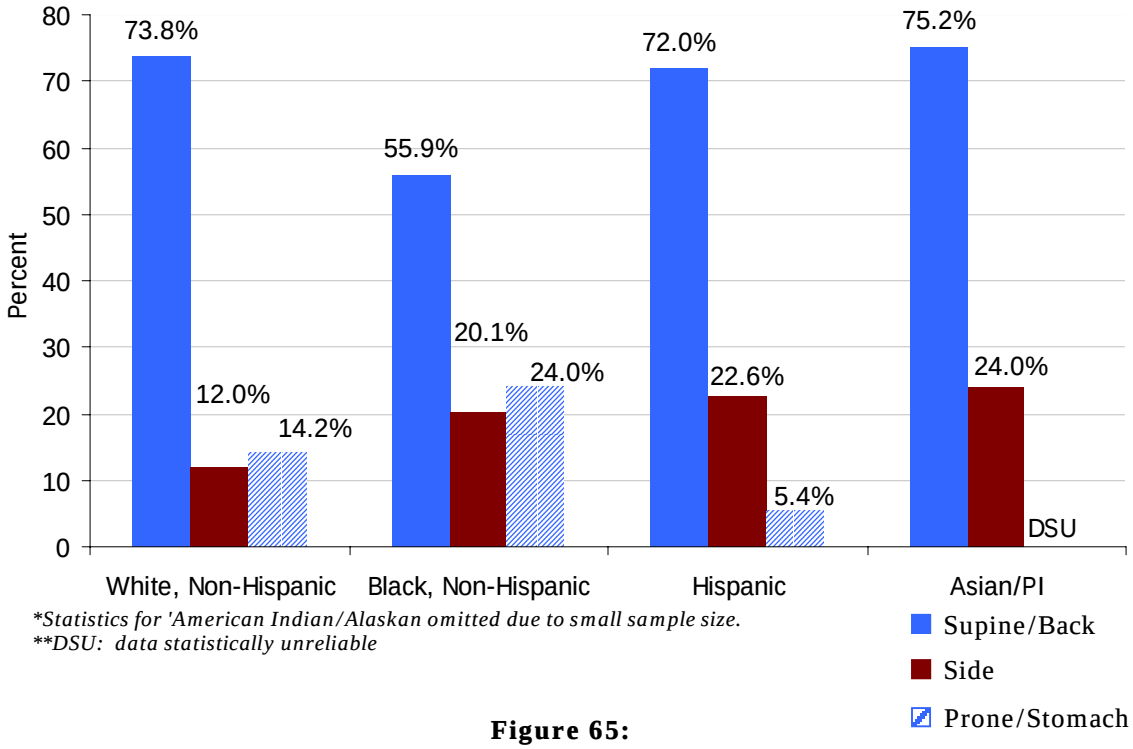


Infant Sleep

Figure 64:

Prevalence of infant sleep position by maternal race/ethnicity,

2002 MI PRAMS

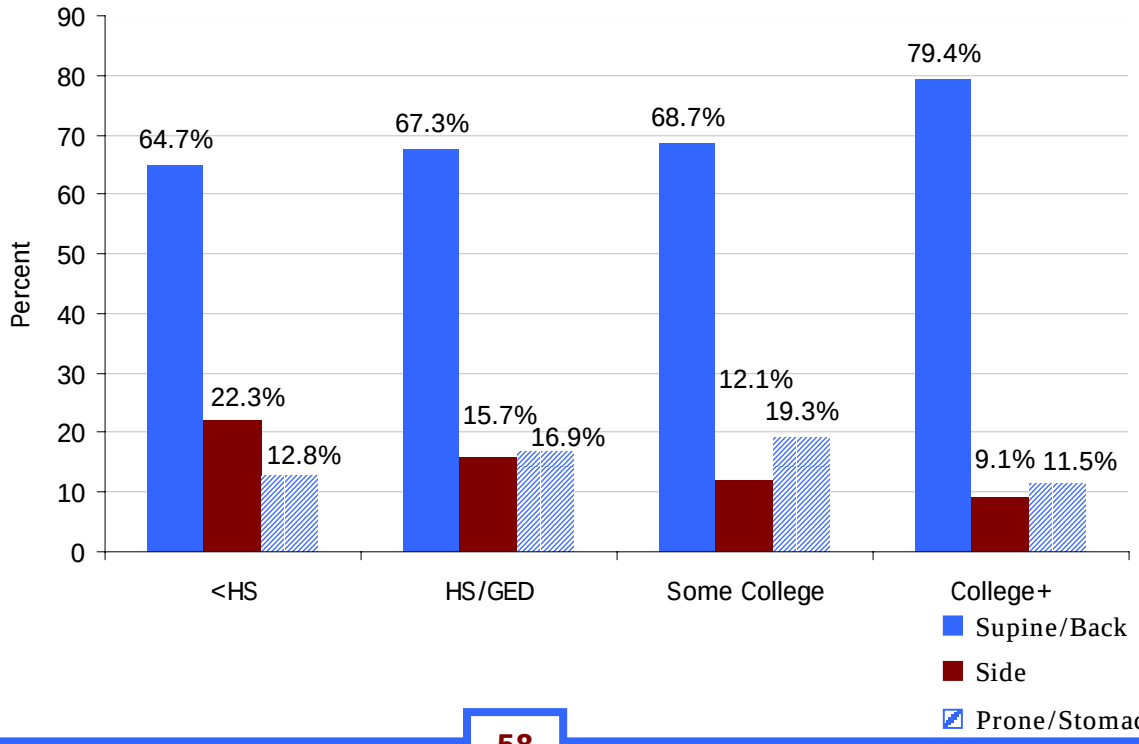


**Statistics for 'American Indian/Alaskan omitted due to small sample size.*
***DSU: data statistically unreliable*

Figure 65:

Prevalence of infant sleep position by maternal education,

2002 MI PRAMS



Infant Sleep

Figure 66:

Prevalence of infant sleep position by maternal insurance status,

2002 MI PRAMS

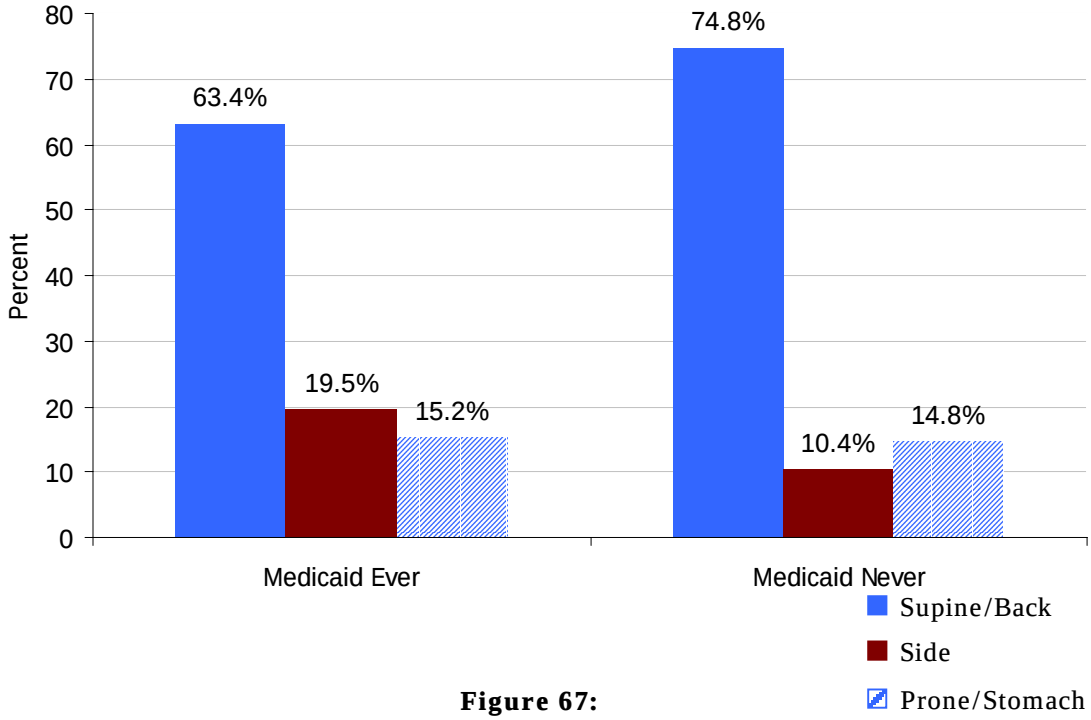
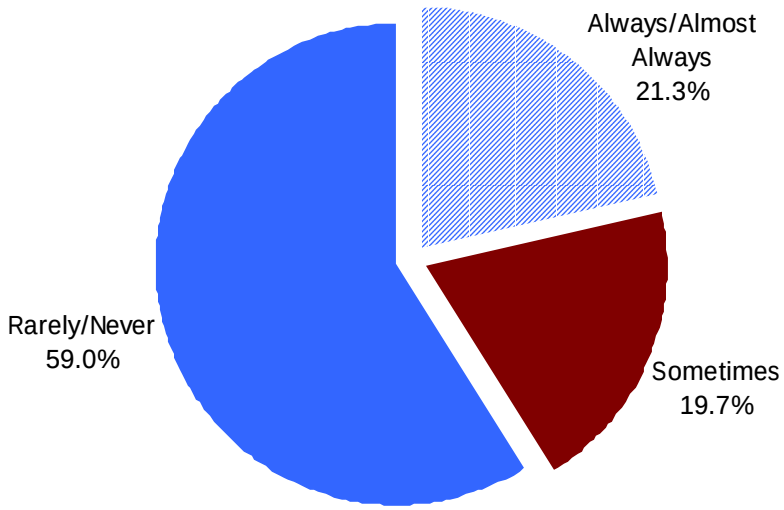


Figure 67:

Prevalence of infant bed sharing,

2002 MI PRAMS



Infant Sleep

Figure 68:

Prevalence of infant bed sharing by maternal age,

2002 MI PRAMS

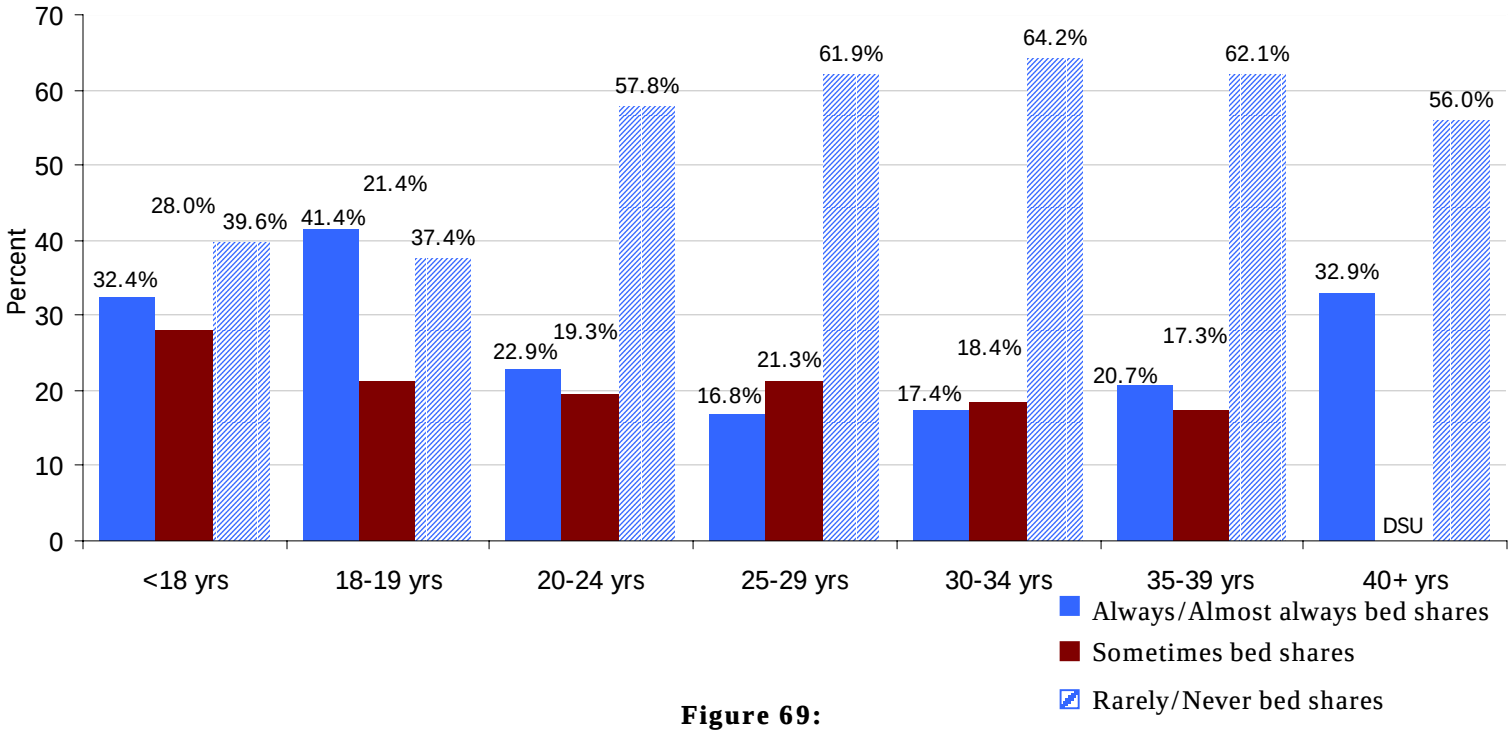
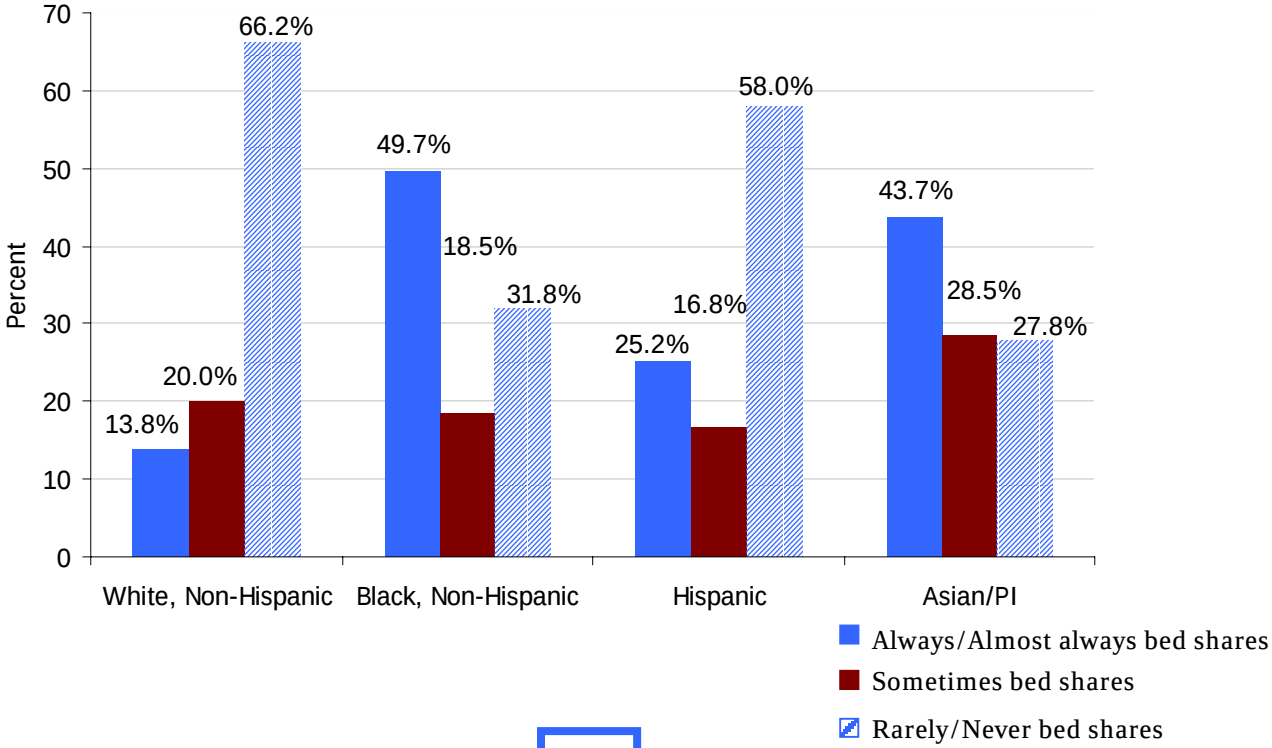


Figure 69:

Prevalence of infant bed sharing by maternal race/ethnicity,

2002 MI PRAMS

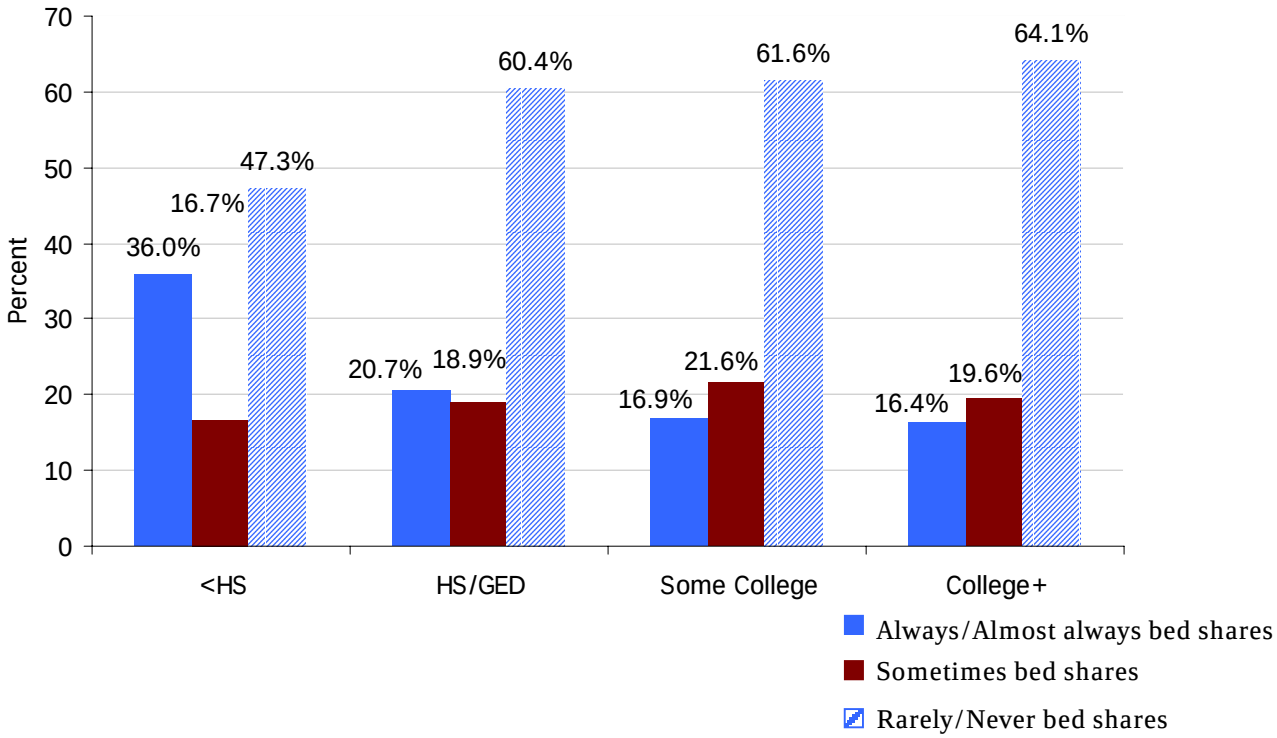


Infant Sleep

Figure 70:

Prevalence of infant bed sharing by maternal education,

2002 MI PRAMS



Violence Against Women

Definition:

Information regarding abuse, both physical and verbal, was derived from six questions asked of all women surveyed for PRAMS. Women classified as being abused prior to pregnancy responded 'Yes' to either Questions #33a or #33b, which ask:

> *Question #33a: During the 12 months before you got pregnant, did your husband or partner push, hit, slap, kick, choke, or physically hurt you in any other way?*
> *_No*
> *_Yes*
> *Question #33b: During the 12 months before you got pregnant, did anyone else push, hit, slap, kick, choke, or physically hurt you in any other way?*
> *_No*
> *_Yes*

Women classified as being abused during pregnancy responded 'Yes' to either Questions #34a or #34b, which ask:

> *Question #34a: During your most recent pregnancy, did your husband or partner push, hit, slap, kick, choke, or physically hurt you in any other way?*
> *_No*
> *_Yes*
> *Question #34b: During your most recent pregnancy, did anyone else push, hit, slap, kick, choke, or physically hurt you in any other way?*
> *_No*
> *_Yes*

The issue of verbal abuse was addressed in question #73. Women were classified as experiencing verbal abuse or not experiencing verbal abuse depending on their response to option 'f':

> *Question #73: This question is about things that may have happened during the 12 months before your new baby was born.*
> *f. You were repeatedly called names, told you were worthless, ugly, or verbally threatened by your partner or someone important to you.*
> *_No*
> *_Yes*

Results:

Among PRAMS respondents, 6.5% reported experiencing abuse in the year prior to their pregnancy. In approximately 75.9% of the cases, the abuser was the woman's husband or partner and about 24.1% of the women reported it was someone else (Figure #71). The same holds true during pregnancy, with about 5.8% of women reportedly being physically abused (Figure #72). Furthermore, approximately 5.8% of women indicated being verbally abused in the year prior to pregnancy (Figure #73).

Public Health Implications:

Only a small percentage of women report either physical or verbal abuse. Standardized screening tools used by providers during prenatal care would help identify women who are victims of abuse. These women can then be referred to appropriate services.

Reference Tables: #42- #46

Violence Against Women

Figure 71:

Prevalence of pre-pregnancy physical abuse and abuser,

2002 MI PRAMS

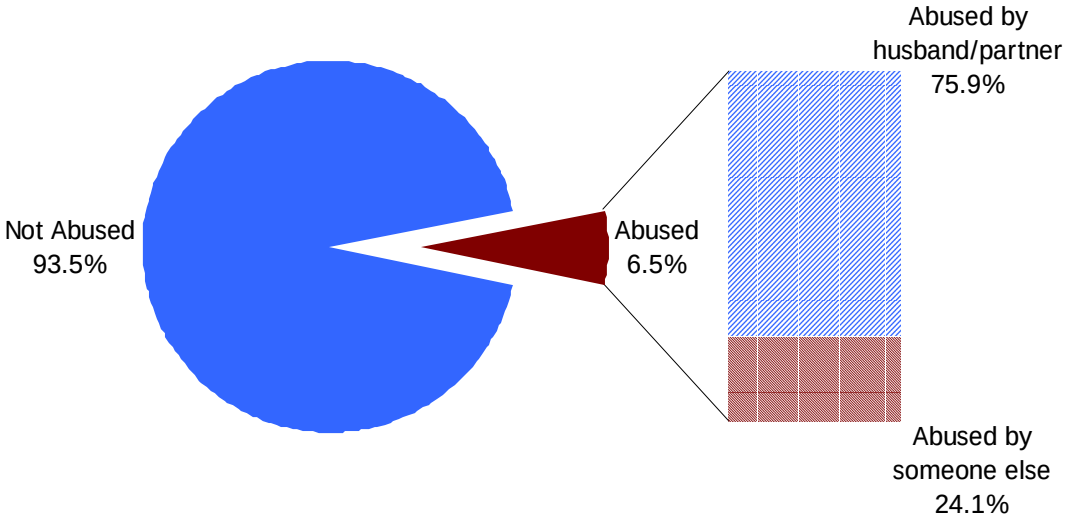
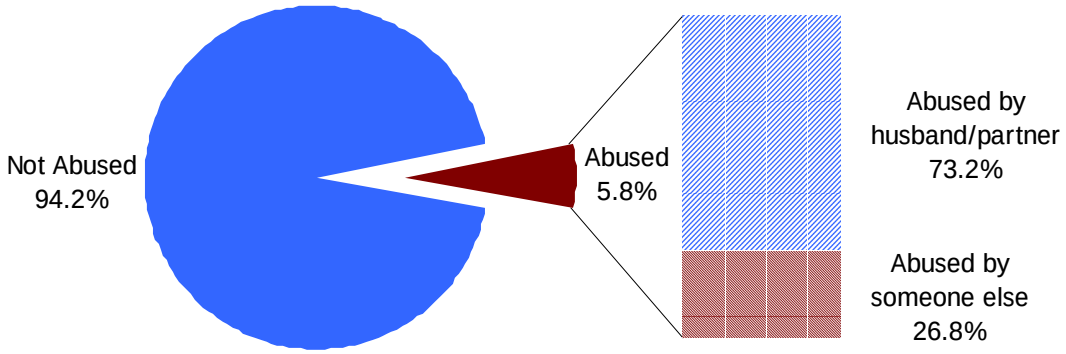


Figure 72:

Prevalence of physical abuse during pregnancy and abuser,

2002 MI PRAMS

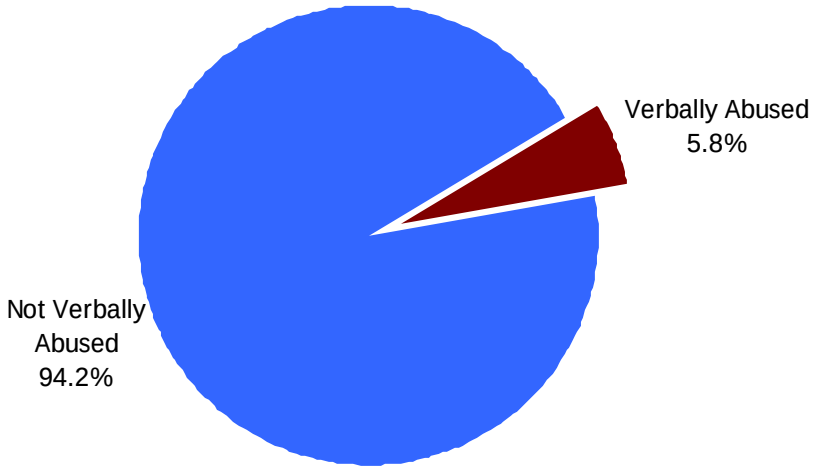


Violence Against Women

Figure 73:

Prevalence of verbal abuse in the year prior to delivery,

2002 MI PRAMS



Folic Acid Awareness

Definition:

Folic acid deficiency has been implicated in the increased risk of birth defects, particularly neural tube defects. One question in the PRAMS questionnaire asked about the participant's awareness of the benefits of folic acid prior to pregnancy:

> *Question #71: Before you became pregnant with your new baby, did either of the following things happen?*
>
> *_You heard or read that taking the vitamin folic acid or foods that contain it (orange juice, citrus fruits, broccoli, green leafy vegetables, and fortified cereal) could prevent some birth defects.*
>
> *_Your doctor or nurse instructed you on how to get enough folic acid*

The participant was considered having an awareness of the benefits folic acid if she responded "Yes" to either situation. Only if she responded "Yes" when asked whether she was instructed by a doctor or nurse about folic acid, was she considered knowledgeable of the benefits and the appropriate amount of folic acid to consume. Although no question directly addresses the consumption of folic acid, question #3 of the survey was used to approximate folic acid consumption.

> *Question #3: In the month before you got pregnant with your new baby, how many times a week did you take a multivitamin (a pill that contains many different vitamins and minerals)?*
>
> *_I didn't take a multivitamin at all*
>
> *_1-3 times a week*
>
> *_4-6 times a week*
>
> *_Every day of the week*

Women who indicated that they took a multivitamin every day were classified as having, "consumed an appropriate amount." Those women who took a multivitamin 1-6 times a week were considered as having, "consumed less than appropriate amount of folic acid" and those who did not take any multivitamin were categorized as having, "consumed no folic acid."

Results:

When both folic acid awareness and instruction are combined, 60.5% of women were aware and instructed by a healthcare professional about the importance of folic acid; another 20.2% were aware but received no instruction, and 15.1% were neither aware nor instructed. Finally, 4.3% of women did not have any prior awareness but were instructed on folic acid by their healthcare provider (Figure #74).

In the month prior to pregnancy, only 29.6% of women reported taking the recommended dose of multivitamins, with 53.6% of women reporting never taking a multivitamin (Figure #75). Consumption of a multivitamin was then stratified by women's awareness and receipt of instruction on the importance of folic acid consumption. The prevalence of daily multivitamin consumption was highest among women (38.1%) who reported to be both aware and instructed by a healthcare professional about the benefits of folic acid. However, about 75.0% of women who were neither instructed nor aware of folic acid reported never taking a multivitamin in the month prior to pregnancy (Figure #76).

Public Health Implications:

The recommended dose of folic acid is 400µg/day. In the survey, the assumption was made that all multivitamins the mother may have taken in the month prior to pregnancy contained the recommended amount of folic acid.

There appears to be a disconnection however, between knowledge of the benefits of folic acid and consumption of a daily supplement. The majority of women know about the sources and benefits of folic acid, but they did not consume a multivitamin daily. Continued education about the benefits of folic acid consumption is still needed particularly in the preconceptional period to encourage women of child-bearing age to take a multivitamin.

Reference Tables: #47- #51b

Folic Acid Awareness

Figure 74:

Prevalence of folic acid awareness and/or instruction,

2002 MI PRAMS

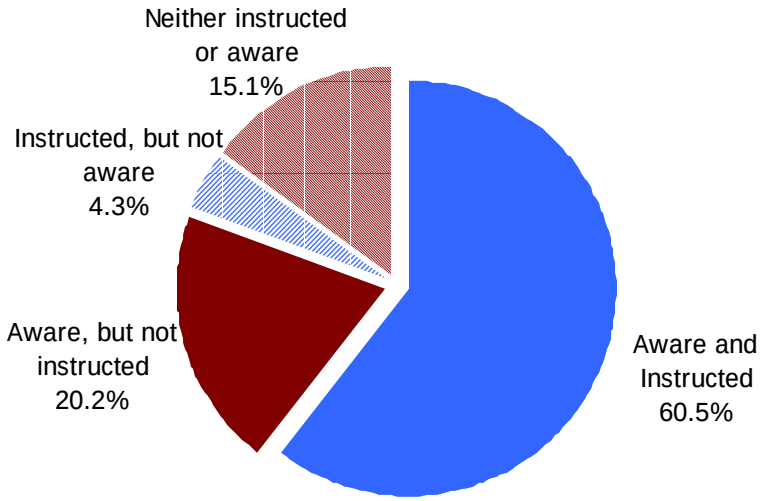
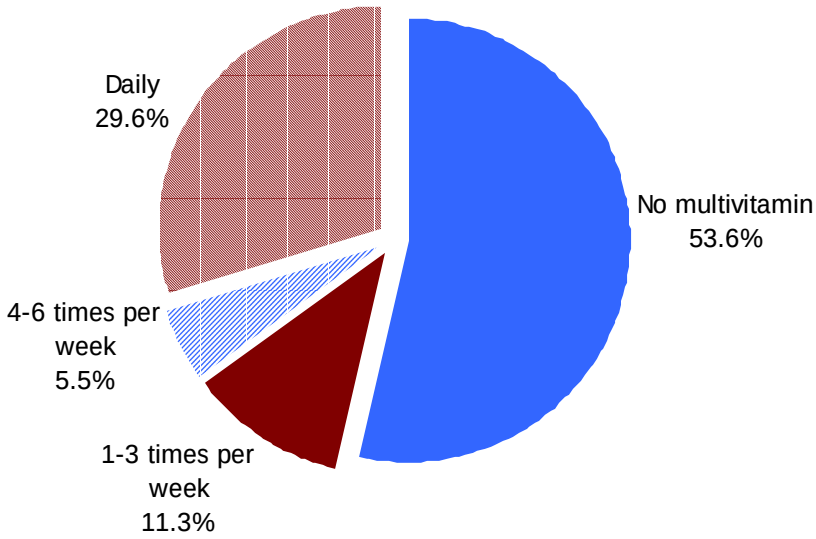


Figure 75:

Frequency of consumption of a multivitamin in the month prior to pregnancy,

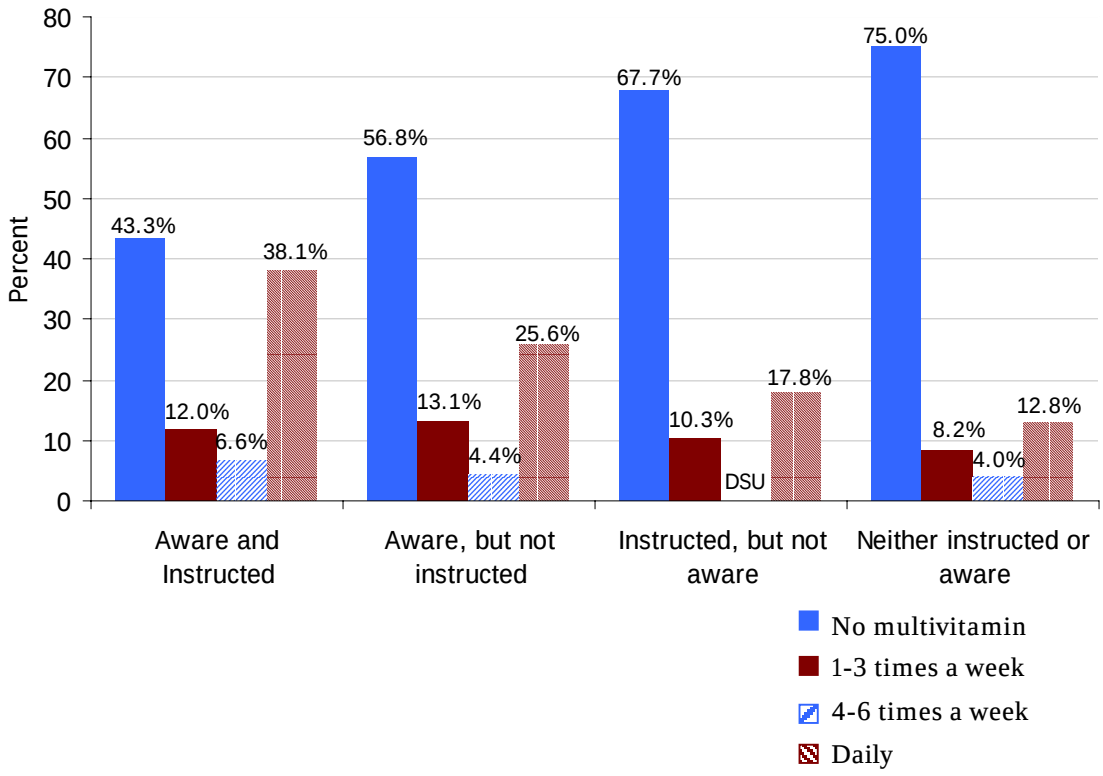
2002 MI PRAMS



Folic Acid Awareness

Figure 76:

Consumption of a multivitamin in the month before pregnancy by awareness of / instruction about folic acid, 2002 MI PRAMS



WIC Participation

Definition:

Three questions regarding the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) were asked of women completing the PRAMS survey. The first of these questions (Question #22) identifies women who participated in WIC during their pregnancy.

Question #22: During your pregnancy, were you on WIC (the Special Supplemental Nutrition Program for Women, Infants, and Children)?
_No
_Yes

Women were categorized as either participating in WIC during pregnancy or not participating in WIC during their pregnancy. Regardless of their answer, however, all women were asked an additional WIC question. Information on women and their infant's participation in WIC during the *postpartum period* was gathered from answers to question #79:

Question #79: Are you or your baby enrolled in WIC now?
_My baby is on WIC
_Both my baby and I are on WIC
_I am on WIC
_Neither I nor my baby are on WIC

Only women who indicated their infant was not enrolled in WIC, irrespective of their own participation, were asked why their infant was not participating in the program.

Question #80: Why wasn't your new baby enrolled in WIC?
_My baby was not eligible
_I didn't know about WIC
_I didn't want to enroll my baby
_Other

Not every pregnant and postpartum woman surveyed by PRAMS is eligible to participate in WIC. There are income and nutritional risks criteria for enrollment in Michigan's WIC: participants must be a pregnant or postpartum woman, reside in Michigan, and be at or below 185% of the Poverty Income Guideline or participate in another state-administered program that utilizes the same income guideline and be classified by a health professional as "nutritionally at risk." While income criteria can be defined, the nutritional risk could not be ascertained by using the PRAMS questionnaire. Therefore, this analysis was restricted to women who participated in Medicaid prior to pregnancy, had Medicaid-paid prenatal care, Medicaid-paid delivery, or received federal assistance as part of their income in the year prior to delivery as income criteria to identify those who were potentially eligible for WIC.

Results:

An estimated 50,000 women were classified as being potentially eligible for WIC based on the above income based criteria. Among the women who met the income requirements, about 74.8% participated in WIC during their pregnancy (Figure #77). During the postpartum period, the prevalence of both mother and/or infant not participating was about 13.9% (Figure #78). The reasons most frequently cited for non-participation in WIC were: did not want the infant to

participate in WIC or were unaware of the program (Figure #79). About a quarter (25.7%) of the women reported "other reasons", not described further in the PRAMS questionnaire.

Public Health Implications:

Based on the PRAMS survey, Michigan's WIC program serves approximately three quarters of women who were identified as potentially eligible. These data should be used with caution as the information obtained from the PRAMS questionnaire is limited to self-reporting and the method PRAMS utilizes to define eligibility does not include the full eligibility criteria used by the WIC program. The Michigan WIC program's continuing efforts in outreach activities to reach the most at-risk populations and educate them about the benefits of WIC enrollment on birth outcome, has helped in increasing program participation.

Reference Tables: #52- #54

WIC Participation

Figure 77:

Participation in WIC during pregnancy among income eligible women, 2002 MI PRAMS

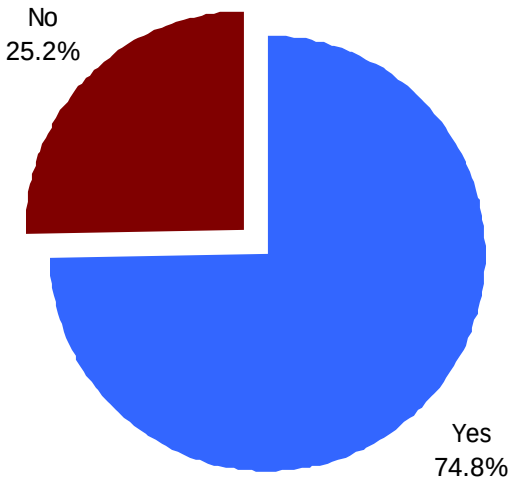
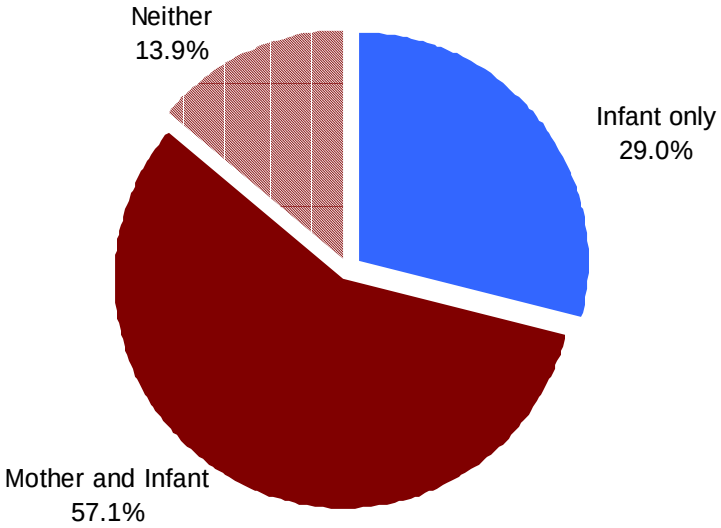


Figure 78:

Participation in WIC in the postpartum period among income eligible women, 2002 MI PRAMS

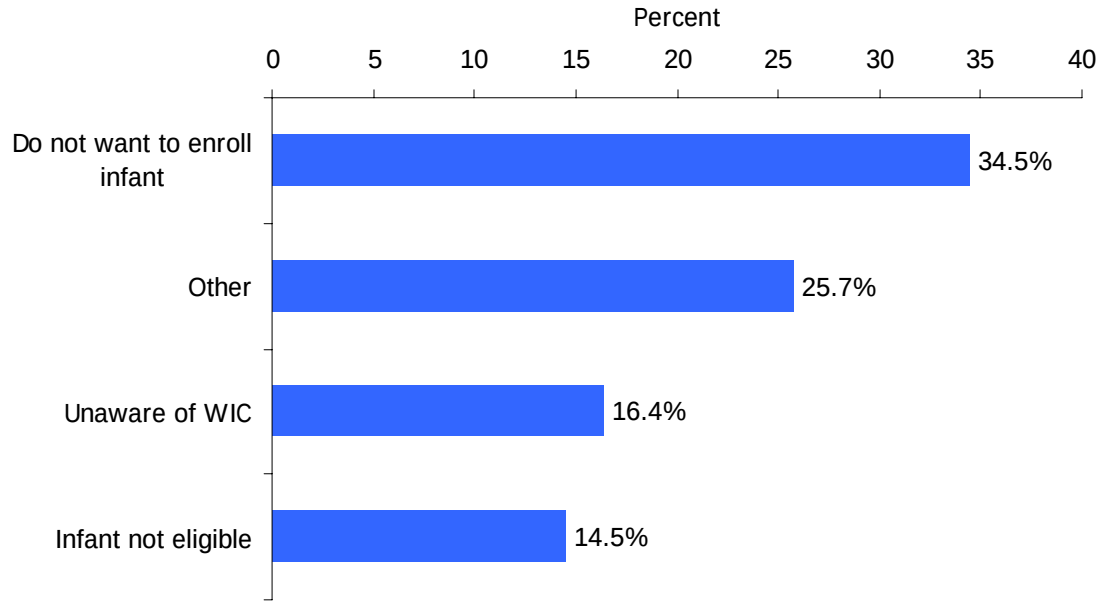


WIC Participation

Figure 79:

Reasons for infant non-participation in WIC among income eligible women whose infant did not participate in WIC,

2002 MI PRAMS



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Appendix A: Methodology

Methodology

The Pregnancy Risk Assessment Monitoring System (PRAMS) is a population-based survey that is part of the Centers for Disease Control and Prevention (CDC) initiative to reduce infant mortality and low birthweight. The Michigan Department of Community Health (MDCH), under the auspices of the CDC, conducted the data collection for the 2002 Michigan PRAMS. Software developed by the CDC was used to manage the sample, enforce protocol, and enter data.

PRAMS surveys mothers who have delivered a live born infant within a calendar year. Natality information, collected by Michigan's Office of Vital Records and Health Statistics, is the most complete single source of information regarding the live births of Michigan residents and serves as the sampling frame from which PRAMS selects survey participants. Mothers who had delivered a live born infant who subsequently died are included in the sampling frame. Also, only one infant of a multiple gestation is included in the sampling frame unless the gestation includes four or more siblings. In that instance, all of the infants are excluded from the sampling frame. Other exclusions include: out-of-state births to residents, in-state births to nonresidents, missing information, delayed or early processing of birth certificates, adopted infants, and surrogate births. Oversampling is utilized to gather a sufficient number of responses among small subpopulations within the state. For 2002, Michigan oversampled for women who had delivered low birthweight infants.

PRAMS is a stratified random sample. Stratification permits both separate estimates of subgroups of interest and permits comparisons across these subgroups. In 2002, the sample was stratified by infant birthweight (Low or Normal) and geographic region (SE Region, Other Urban Areas (populations >25,000), All Other Areas). Each calendar month a sample is drawn from the births recorded in the month prior. Once the sample has been identified, the information is forwarded to the Michigan State University (MSU) Office of Survey Research, which is subcontracted by MDCH to conduct the survey.

PRAMS utilizes a mixed-mode methodology in order to gather information from women selected to participate in the survey. This combination mail/telephone survey methodology, based on the research of Don Dilman, is utilized in order to maximize response rates. Women are first notified of the PRAMS survey and then sent the questionnaire, via mail. If the mother has not responded after three attempts by mail, she is then contacted by telephone and has the opportunity to participate in the PRAMS survey via telephone. From a total of 2150 women, who were selected from the sampling frame to participate, 1546 (72%) women were surveyed. The demographic characteristics of these women are depicted in the section entitled Maternal Demographics.

The questionnaire consists of two parts. First, there are core questions, developed by the CDC, that appear on all states' surveys. Second, there are state-added questions that are tailored to each state's needs. Topics addressed in the PRAMS core questionnaire include barriers to and content of prenatal care, obstetric history, maternal use of alcohol and tobacco, physical abuse, contraception, economic status, maternal stress, and early infant development and health status. Some state-added questions provide additional information on topics already addressed in the core questionnaire, including content of prenatal care, contraception, and physical abuse. Other questions address different topics, including social support and services, mental health, and injury prevention. Topics addressed by the new state-added include: racism, mental health, mental/emotional abuse, and pre-pregnancy contraception.

Weighting

After the data collection is concluded, mothers responses are linked to their corresponding birth certificate data. The linked PRAMS response/birth certificate dataset is then sent to the CDC for weighting. Weighting allows public health professionals and researchers to estimate the statistics for the entire state's population of women who delivered a live born infant from data gathered from a sample of mothers in that population. In PRAMS there are three weighting components that adjusted for: sample design, nonresponse, and omissions in the sampling frame. Nonresponse adjustment factors attempt to compensate for the tendency of women having certain characteristics (such as being unmarried or of lower education) to respond at lower rates than women without those characteristics. The rationale for applying nonresponse weights is the assumption that nonrespondents would have provided similar answers to respondents' answers for that stratum and adjustment category.

Interpretation of Results

As with all surveys, PRAMS is not free of sampling error. The 95% confidence intervals are included in order to quantify this error and to clarify the degree of certainty in the estimates.

In the 2002 sample, Michigan was stratified by infant birthweight (Low or Normal) and geographic region (SE Region, Other Urban Areas, All Other Areas). The information in this report was weighted to estimate the characteristics for the entire cohort of women delivering a live born infant in 2002. The overall response rate was 72%. The response rate for each of the strata is as follows:

- SE Region/LBW: 61%
- SE Region/NBW: 71%
- Other Urban Areas/LBW: 59%
- Other Urban Areas/NBW: 75%
- All Other Areas/LBW: 74%
- All Other Areas/NBW: 80%

Both the SE region low birth weight stratum and the other urban areas low birth weight stratum had response rates that fell short of the 70% rate that the CDC regards as the epidemiologically valid threshold for PRAMS. Analysis specific to these strata will result in potentially biased estimates. Consequently, the information regarding this stratum must be viewed with caution.

Appendix B: Detailed Tables

Table 1:
Selected demographic characteristics,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1546	125739	100		
Age					
<18 yrs	57	4816	3.8	2.8	5.2
18-19 yrs	90	8430	6.7	5.3	8.4
20-24 yrs	362	29480	23.5	21.1	6.0
25-29 yrs	428	35288	28.1	25.6	30.7
30-34 yrs	398	30982	24.6	22.3	27.1
35-39 yrs	178	14893	11.8	10.2	13.8
40+ yrs	33	1850	1.5	1.0	2.2
Race/Ethnicity					
White, Non-Hispanic	1153	92710	74.7	72.0	77.1
Black, Non-Hispanic	254	21370	17.2	15.1	19.6
Hispanic	73	6707	5.4	4.2	6.9
American Indian	7	597	0.5	0.2	1.0
Asian/PI	34	2780	2.2	1.5	3.3
Other	0	-	-	-	-
Maternal Education					
<HS	240	21844	17.8	15.6	20.2
HS/GED	487	38863	31.6	29.0	34.3
Some College	369	28095	22.9	20.6	25.3
College+	424	34125	27.8	25.3	30.4
Marital Status					
Married	1015	80641	64.6	61.7	67.3
Other	520	44286	35.5	32.7	38.3
Pre-Pregnancy Insurance Status					
Private Insurance/HMO	1053	84148	67.2	64.4	69.9
Medicaid	204	17247	13.8	11.9	15.9
Uninsured	283	23852	19.0	16.9	21.5

2002 MI PRAMS

Table 2:
Prevalence of intended and unintended pregnancies,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1526	123957	100.0	-	-
Intended	884	70474	56.9	54.0	46.0
Unintended*	642	53483	43.2	40.3	59.7

2002 MI PRAMS

*Unintended Pregnancy: Wanted to become pregnancy later or did not want to be pregnancy at all

Table 3:
Prevalence of types of unintended pregnancies,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	642	53483	100.0	-	-
Type of Unintended Pregnancy					
Mistimed*	464	39983	74.8	70.8	78.4
Unwanted**	178	13500	25.2	21.6	29.2

2002 MI PRAMS

*Mistimed: Wanted to bcome pregnant later

**Unwanted: Did not want to be pregnant then or in the future

Table 4:
Prevalence of contraceptive use and methods among unintended pregnancies,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	574	48201	100.0	-	-
Contraceptive Use					
Yes	301	24499	50.8	46.1	55.6
No	273	23702	49.2	44.4	53.9
Contraceptive Method					
Condom	90	7247	30.5	24.8	36.9
Withdrawal	74	6112	25.7	20.4	31.9
Birth Control Pill	65	5469	23.0	17.9	29.1
Other	29	2011	8.5	5.6	12.6
Depro-Provera	18	1665	7.0	4.1	11.7
Foam, cream, jelly	16	1057	4.5	2.4	79.3
Sterilization (male)	3	DSU	DSU	DSU	DSU
Norplant	0	-	-	-	-
Sterilization (female)	0	-	-	-	-

2002 MI PRAMS

DSU: Data Statistically Unreliable

Table 5:
Prevalence of pregnancy intention by maternal demographic characteristics,
2002 MI PRAMS

	Intended Pregnancy					Unintended Pregnancy				
	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	884	70474	56.9	54.0	59.7	642	53483	43.2	40.3	46.0
Maternal Age										
<18 yrs	10	1087	22.6	11.8	39.0	47	3729	77.4	61.0	88.2
18-19 yrs	20	1710	20.6	12.7	31.5	68	6600	79.4	68.5	87.3
20-24 yrs	152	12352	42.6	36.8	48.6	206	16644	57.4	51.4	63.2
25-29 yrs	278	22481	64.2	58.8	69.3	147	12515	35.8	30.7	41.2
30-34 yrs	273	20903	68.8	63.3	73.7	118	9503	31.3	26.3	36.7
35-39 yrs	127	10574	72.5	64.5	79.3	47	4009	27.5	20.7	35.5
40+ yrs	24	1366	73.8	53.3	87.5	9	1366	26.2	12.5	46.7
Race/Ethnicity										
White, Non-Hispanic	718	56964	62.3	59.1	65.5	420	34414	37.7	34.5	40.9
Black, Non-Hispanic	94	7449	35.1	28.5	42.3	158	13773	64.9	57.7	71.5
Hispanic	37	3134	48.3	35.6	61.2	34	3355	51.7	38.8	64.4
American Indian	3	DSU	DSU	DSU	DSU	3	DSU	DSU	DSU	DSU
Asian/PI	19	1634	58.8	39.7	75.6	15	1145	41.2	24.4	60.3
Maternal Education										
<HS	85	7704	35.8	29.1	43.2	236	13689	64.2	56.9	70.9
HS/GED	231	18245	47.6	42.6	52.6	250	20090	52.4	47.4	57.4
Some College	226	17007	61.6	55.7	67.3	138	10585	38.4	32.8	44.3
College+	326	25695	76.2	71.2	80.5	93	8029	23.8	19.5	28.8
Marital Status										
Married	709	55948	70.6	67.3	73.6	291	23325	29.4	26.4	32.7
Other	167	13815	31.5	26.9	36.4	648	30056	68.5	6..58	73.1
Pre-Pregnancy Insurance Status										
Private Insurance/HMO	690	54615	65.7	62.4	69.0	165	14248	34.3	31.1	37.7
Medicaid	79	6488	38.0	30.6	46.0	124	10578	62.0	54.0	69.4
Uninsured	113	9103	39.0	32.6	45.8	351	28477	61.0	54.2	67.4

2002 MI PRAMS

DSU: Data Statistically Unreliable

Table 6:
Prevalence of contraceptive use prior to pregnancy by maternal demographic characteristics, 2002 MI PRAMS

	Intended Pregnancy					Unintended				
	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	408	34807	54.3	50.3	58.4	364	29264	45.7	41.7	49.8
Maternal Age										
<18 yrs	25	2208	60.3	42.3	75.8	20	1455	39.7	24.2	57.7
18-19 yrs	35	3605	48.7	36.2	61.5	43	3794	51.3	38.6	63.9
20-24 yrs	119	10364	53.4	46.0	60.6	118	9064	46.7	39.4	63.2
25-29 yrs	104	8843	55.2	46.8	63.3	84	7171	44.8	36.7	53.2
30-34 yrs	71	5875	55.9	46.5	64.9	64	4637	44.1	35.1	53.5
35-39 yrs	43	3357	53.0	40.6	65.0	32	2979	47.0	35.0	59.4
40+ yrs	11	556	77.3	45.1	93.4	3	DSU	DSU	DSU	DSU
Race/Ethnicity										
White, Non-Hispanic	276	23229	54.6	49.8	59.4	246	19300	45.4	40.6	50.2
Black, Non-Hispanic	96	8749	54.6	45.8	63.1	87	7288	45.4	37.0	54.2
Hispanic	17	1466	40.4	24.3	58.8	20	2167	59.7	41.2	75.7
American Indian	4	DSU	DSU	DSU	DSU	0	DSU	DSU	DSU	DSU
Asian/PI	6	615	63.7	33.6	85.9	7	350	36.3	14.1	66.4
Maternal Education										
<HS	101	9748	61.4	52.7	69.5	73	6124	38.6	30.5	47.3
HS/GED	162	13445	54.2	47.8	6.5	143	11370	45.8	39.5	52.2
Some College	86	6958	54.2	45.4	62.8	83	5882	45.8	37.2	54.6
College+	56	4351	45.0	35.2	55.1	59	5325	55.0	44.9	64.8
Pre-Pregnancy Insurance Status										
Private Insurance/HMO	221	18408	54.1	48.6	51.4	203	15637	45.9	40.6	51.4
Medicaid	80	6905	54.8	45.3	63.9	67	5706	45.3	36.1	54.7
Uninsured	105	9294	54.6	46.4	62.4	92	7741	45.4	37.6	53.6

2002 MI PRAMS

DSU: Data Statistically Unreliable

Table 7:
Reasons for contraceptive nonuse prior to pregnancy,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Reasons					
Did not mind getting pregnant	183	15863	43.2	37.9	48.6
Thought could not get pregnant	102	8156	22.2	18.1	27.0
Husband/partner did not want to use	89	8286	22.6	18.2	27.5
Discontinued birth control because of side effects	74	6149	16.7	13.0	21.3
Other	73	6170	16.8	13.1	21.3
Thought husband/partner sterile	38	3322	9.0	6.3	12.8
Difficulty getting birth control	34	3085	8.4	5.7	12.2

2002 MI PRAMS

Table 8:
Contraceptive method used prior to pregnancy,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Contraceptive Method					
Condom	178	14607	46.8	41.1	52.6
Withdrawal	94	7362	23.6	19.1	28.7
Birth Control Pill	127	10391	33.3	28.1	39.0
Other	38	2393	7.7	5.3	11.0
Depro-Provera	25	2056	6.6	4.1	10.4
Foam, cream, jelly	35	2563	8.2	5.6	11.9
Sterilization (male)	6	370	1.3	0.5	1.3
Norplant	0	-	-	-	-
Sterilization (female)	0	-	-	-	-

2002 MI PRAMS

Table 9:
Prevalence of contraceptive use postpartum by maternal demographic characteristics,
2002 MI PRAMS

	Did not use contraception					Used contraception				
	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	217	18253	14.6	13.2	16.8	1315	106477	85.4	83.2	87.3
Maternal Age										
<18 yrs	4	DSU	DSU	DSU	DSU	49	734	92.5	79.9	97.4
18-19 yrs	6	496	6.0	2.6	13.4	82	981	94.0	86.6	97.5
20-24 yrs	39	3668	12.5	8.9	17.4	321	1518	87.5	82.6	91.1
25-29 yrs	70	5693	16.2	12.5	20.7	356	1619	83.8	79.3	87.5
30-34 yrs	55	4526	14.7	11.2	19.2	340	1463	85.3	80.9	88.9
35-39 yrs	37	3281	22.2	16.1	29.8	140	1028	77.8	70.2	83.9
40+ yrs	6	241	13.0	5.1	29.3	27	360	86.98	70.8	94.9
Race/Ethnicity										
White, Non-Hispanic	173	14282	15.5	13.3	18.0	973	77902	84.5	82.0	86.8
Black, Non-Hispanic	25	2280	10.8	6.8	16.8	224	18745	89.2	83.2	93.2
Hispanic	12	1010	15.1	8.0	26.6	61	5697	84.9	73.4	92.0
American Indian	2	DSU	DSU	DSU	DSU	4	DSU	DSU	DSU	DSU
Asian/PI	3	DSU	DSU	DSU	DSU	30	2604	94.4	76.8	98.8
Maternal Education										
<HS	32	2828	13.2	8.9	19.1	202	18654	86.8	80.9	91.1
HS/GED	56	4699	12.2	9.2	15.9	428	33962	87.9	84.1	90.8
Some College	56	4477	16.1	12.1	21.1	310	23316	83.9	78.9	87.9
College+	69	5614	16.5	12.8	20.9	354	28489	83.5	79.1	87.2
Prenatal Contraception Counseling										
Talked to HCW	148	12944	12.9	10.8	51.4	1070	87812	87.2	84.8	89.2
Did not talk to HCW	65	4861	22.1	17.1	63.9	228	17117	45.3	77.9	82.9

2002 MI PRAMS

Discussed contraception with a doctor, nurse, or other health professional during prenatal care visit. Does not include educational literature or videos

DSU: Data Statistically Unreliable

Table 10:
Reasons for contraceptive nonuse postpartum,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Reasons					
Did not want to use birth control	59	5278	27.7	21.6	34.7
Not having sex	48	4140	21.7	16.0	28.7
Want to get pregnant	56	3903	20.5	15.3	26.8
Other	55	4354	22.8	17.3	29.5
Husband/partner does not want to use	25	2166	11.4	7.6	16.7
Believe cannot get pregnant	13	1124	5.9	3.1	11.0
Cannot afford birth control	11	911	4.8	2.4	9.2
Pregnant now	7	671	3.5	1.6	7.5

2002 MI PRAMS

Table 11:
Prevalence of infant birthweight,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Prevalence by LBW					
Total	1546	125739			
NBW	1166	116876	93.0	92.5	93.4
LBW*	380	8867	7.1	6.6	7.5
Prevalence by LBW Type					
Total	380	8867			
mLBW**	295	6971	78.6	74.3	82.4
vLBW***	85	1896	21.4	17.6	25.7

2002 MI PRAMS

*LBW: Birthweight below 2500 grams

**Birthweight between 1500 to 2500 grams

***Birthweight below 1500 grams

Table 12:
Prevalence of birth weight by pregnancy intention,
2002 MI PRAMS

	Low Birthweight					Normal Birthweight				
	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Unintended Pregnancy										
Total	377	8799				1149	115158			
Unintended	170	4202	7.9	6.8	9.0	472	49281	92.1	91.0	93.2
Intended	207	4597	6.5	5.8	7.3	677	65877	93.5	92.7	94.2
Unintended Pregnancy Type										
Total	170	4202				472	32			
Mistimed	110	2713	6.8	5.7	8.1	354	37270	93.2	91.9	94.4
Unwanted	60	1489	11.0	8.4	14.4	118	12011	89.0	85.6	91.6

2002 MI PRAMS

Table 13:
Infant birthweight by maternal demographic characteristics,
2002 MI PRAMS

	Low Birthweight					Normal Birthweight				
	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	380	8867	7.1	6.6	7.5	1166	116872	93.0	92.5	93.4
Age										
<18 yrs	22	538	11.2	6.8	17.8	35	4278	88.8	82.2	93.2
18-19 yrs	25	696	8.3	5.4	12.5	65	7734	91.7	87.5	94.6
20-24 yrs	90	2210	7.5	6.1	9.2	272	27271	92.5	90.8	93.9
25-29 yrs	91	2052	5.8	4.7	7.1	337	33237	94.2	92.9	95.3
30-34 yrs	103	2236	7.2	6.0	8.7	295	28746	92.8	91.3	94.0
35-39 yrs	34	765	5.1	3.6	7.2	144	14128	94.9	92.8	96.4
40+ yrs	15	371	20.1	11.1	33.5	18	1479	80.0	66.5	88.9
Race/Ethnicity										
White, Non-Hispanic	249	5450	5.9	59.1	5.4	6.46	87259	94.1	93.5	94.7
Black, Non-Hispanic	94	2551	11.9	28.5	9.6	14.72	18819	88.1	85.3	90.4
Hispanic	14	330	4.9	35.6	2.8	8.4	6377	95.1	91.6	97.2
American Indian	0	-	-	-	-	7	597	100	DSU	DSU
Asian/PI	10	212	7.9	39.7	3.8	14.65	2568	92.4	85.4	96.2
Maternal Education										
<HS	82	2140	9.8	7.77	12.29	158	19703	90.2	87.71	92.23
HS/GED	111	2856	7.4	6.14	8.76	379	36007	92.7	91.24	93.86
Some College	97	2051	7.3	5.97	8.89	272	26045	92.7	91.11	94.03
College+	86	1700	5.0	4.06	6.1	338	32425	95.0	93.9	95.94
Marital Status										
Married	211	4494	5.6	5.0	6.2	804	76147	94.4	93.8	95.0
Other	165	4282	9.7	8.3	11.2	355	40004	90.3	88.8	91.7
Pre-Pregnancy Insurance Status										
Private Insurance/HMO	244	5425	6.5	5.82	7.13	809	78722	93.6	92.87	94.18
Medicaid	58	1482	8.6	6.52	11.25	146	15765	91.4	88.75	93.48
Uninsured	76	1916	8.0	6.36	10.09	207	21937	92.0	89.81	93.64

2002 MI PRAMS

Table 14:
Prevalence of low birthweight by gestational age,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	380	8867	7.1	6.6	7.5
Gestational Age					
Pre-term infant*	276	6379	54.7	47.1	62.0
Term infant**	104	2487	2.2	1.8	2.6
					2002 MI PRAMS

*Pre-term infant: Gestational age < 37 weeks

**Term infant: Gestational age >= 37 weeks

Table 15:
Trimester of entry into prenatal care,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1528	124495	347		
Entry into Prenatal Care					
1st trimester	1205	96309	77.4	74.8	79.7
2nd trimester	277	23669	19.0	16.8	21.4
3rd trimester	36	3549	2.9	2.0	4.1
No PNC	10	968	0.8	0.4	1.6
					2002 MI PRAMS

*LBW: Birthweight below 2500 grams

Table 16:
Trimester of entry into prenatal care by maternal demographic characteristics,
2002 MI PRAMS

	1st Trimester					After 1st Trimester/Not at all				
	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1205	96309	77.4	74.8	79.7	323	26570	22.6	20.0	22.6
Maternal Age										
<18 yrs	29	2309	48.7	33.4	64.2	26	2433	51.3	35.8	66.6
18-19 yrs	52	4613	54.7	42.7	66.2	38	3816	45.3	33.8	57.3
20-24 yrs	253	19985	68.2	62.4	73.5	105	9321	31.8	26.5	37.7
25-29 yrs	356	28793	82.3	77.5	86.3	68	6187	17.7	13.7	22.5
30-34 yrs	342	26657	87.7	83.6	91.0	49	3723	12.3	9.0	16.4
35-39 yrs	152	12739	86.0	79.5	90.8	25	452	14.0	9.3	20.6
40+ yrs	21	1212	65.5	45.3	81.4	12	638	34.5	18.6	54.7
Race/Ethnicity										
White, Non-Hispanic	949	75739	82.4	79.8	84.8	194	16171	17.6	15.2	20.2
Black, Non-Hispanic	151	11729	56.0	48.4	63.3	96	9221	44.0	36.7	51.6
Hispanic	53	4934	73.8	60.9	83.7	19	1748	26.2	16.3	39.2
American Indian	5	395	66.11	27.2	91.1	2	DSU	DSU	DSU	DSU
Asian/PI	30	2522	90.7	75.0	96.7	4	DSU	DSU	DSU	DSU
Maternal Education										
<HS	138	11754	54.2	46.8	61.5	97	9916	45.8	38.5	53.2
HS/GED	368	29214	76.2	71.5	80.4	111	9118	23.8	19.6	28.5
Some College	305	23458	83.8	79.1	87.6	63	4552	16.3	12.4	20.9
College+	374	29813	88.5	84.7	91.5	46	3857	11.5	8.5	15.3
Pre-Pregnancy Insurance Status										
Private Insurance/HMO	897	71581	86.0	49.4	62.9	147	11687	14.0	37.1	50.6
Medicaid	132	10863	64.1	55.9	71.6	65	6086	35.9	28.4	44.1
Uninsured	171	13392	56.3	6.4	10.1	110	10395	43.7	89.8	93.6

2002 MI PRAMS

DSU: Data Statistically Unreliable

Table 17:
Trimester of entry into prenatal care by pregnancy intention,
2002 MI PRAMS

	1st Trimester					After 1st Trimester / Not at all				
	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Intended	760	60615	87.1	84.3	89.4	113	937	12.9	10.6	15.7
Unintended	432	34489	65.0	60.5	69.2	203	1440	35.1	30.8	39.6

2002 MI PRAMS

Table 18:
Satisfaction with trimester of entry into prenatal care,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1527	124289	100.0		
Satisfaction with Time of Entry					
No	300	24858	19.8	17.6	22.3
Yes	1227	99431	80.2	77.7	82.4

2002 MI PRAMS

Table 19:
Number of barriers to care experienced by women who were not satisfied with the trimester of entry into prenatal care,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	301	24442	100		
Number of Barriers					
1 barrier	194	15466	62.0	55.3	68.4
2 barriers	68	5737	23.0	17.8	29.3
3 barriers	28	2647	10.6	7.0	15.7
4 barriers	5	593	2.4	1.0	5.8
5 barriers	2	DSU	DSU	DSU	DSU
6 barriers	4	DSU	DSU	DSU	DSU

2002 MI PRAMS

DSU: Data Statistically Unreliable

Table 20:
Types of barriers to care experienced by women who were not satisfied with the trimester of entry into prenatal care,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Types of Barriers					
Unaware of pregnancy	121	9456	37.3	31.2	43.9
Could not get earlier appointment	114	9309	36.7	30.6	43.3
Could not pay for appointment	52	4988	19.7	14.8	25.7
Other	59	5010	19.8	15.0	25.6
Too much going on	34	3196	12.6	8.7	17.9
Dcotor/HMO would not start care earlier	36	3068	12.1	8.5	17.0
Did not have Medicaid Card	25	2825	11.1	7.2	16.8
No trasportation	18	1515	6.0	3.5	10.0
No child care	9	709	2.8	1.2	6.3

2002 MI PRAMS

Table 21:
Prevalence of prenatal care providers,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1470	119144	100		
Prenatal Care Providers					
Hospital Clinic	241	19696	16.5	14.4	18.9
Health Dept. Clinic	57	5238	4.4	3.3	5.9
MD/HMO	1172	94210	79.1	76.5	81.4

2002 MI PRAMS

Table 22:
Sources of payment for prenatal care,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Sources of Payment					
Private Insurance	1043	83011	66.6	63.8	69.3
Medicaid	537	44819	35.9	33.2	38.7
Personal Income	212	17028	13.7	11.9	15.7
Other	31	2691	2.6	1.5	3.2

2002 MI PRAMS

Table 23:
Topics discussed during any prenatal care visit (literature and videos excluded),
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Topics Discussed					
Safe Medications	1383	112128	90.5	88.7	92.1
Screening for Birth Defects	1340	108484	87.8	85.7	89.6
Early Labor	1281	107545	87.0	85.1	88.8
HIV/AIDS Test	1298	106376	86.0	83.9	87.8
Breastfeeding	1242	102246	82.5	80.2	84.5
Postpartum Contraception	1229	101685	82.2	80.0	84.3
Smoking during Pregnancy	1103	89545	72.4	69.8	74.9
Alcohol Consumption during Pregnancy	1086	88624	71.5	68.8	74.0
Illegal Drug Use during Pregnancy	952	77545	62.8	60.0	65.5
Seatbelt Use	743	58747	47.6	44.8	50.5
Domestic Abuse	643	52335	42.4	39.6	45.3

2002 MI PRAMS

Table 24:
Breastfeeding intention prior to delivery,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1451	125739	100		
Plan					
Planned to breastfeed	816	67384	56.4	53.4	56.4
May Breastfeed	253	19021	15.9	18.1	15.9
Planned not to breastfeed	320	27644	23.1	25.7	23.1
Unsure about breastfeeding	62	5516	4.6	6.1	4.6

2002 MI PRAMS

Table 25:
Breastfeeding initiation,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1452	125739	100		
Breastfeeding Initiation					
Yes	1037	83654	70.0	67.2	72.7
No	415	35825	30.0	27.3	32.8

2002 MI PRAMS

Table 26:
Breastfeeding duration,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1417	116505			
Breastfeeding Duration					
Did not breastfeed	415	35825	30.8	28.0	33.6
Breastfed for <1 week	56	4161	3.6	2.7	4.7
Breastfed for >1 week, but concluded	485	37795	32.5	29.8	35.3
Breastfeeding when surveyed	461	38725	33.3	30.5	36.1

2002 MI PRAMS

Table 27a:
Prevalence of breastfeeding duration by maternal demographic characteristics,
2002 MI PRAMS

	Did not breastfeed					Breastfed for <1 week				
	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1546	35825	100.0			1546	3683	100.0		
Age										
<18 yrs	18	1756	41.0	25.7	58.3	10	631	14.7	7.0	28.2
18-19 yrs	47	4921	61.7	49.8	72.4	2	DSU	DSU	DSU	DSU
20-24 yrs	109	9710	37.0	31.1	43.3	18	1534	5.8	3.6	9.4
25-29 yrs	109	9188	27.3	22.6	32.1	9	697	2.1	1.0	4.1
30-34 yrs	89	6798	23.3	18.9	28.4	11	820	2.8	1.5	5.4
35-39 yrs	37	2957	21.5	15.4	29.1	2	DSU	DSU	DSU	DSU
40+ yrs	6	495	13.0	17.4	62.8	4	DSU	DSU	DSU	DSU
Race/Ethnicity										
White, Non-Hispanic	294	25635	29.5	26.4	32.7	36	2674	3.1	2.2	4.4
Black, Non-Hispanic	90	7582	40.5	33.0	48.4	11	913	4.9	2.4	9.5
Hispanic	17	1384	22.8	13.5	35.7	5	356	5.9	2.1	15.1
Asian/PI	3	DSU	DSU	DSU	DSU	2	DSU	DSU	DSU	DSU
American Indian	5	427	83.3	36.9	97.7	0	-	-	-	-
Education										
<HS	105	10433	53.1	45.3	60.7	15	1040	5.3	2.9	9.5
HS/GED	173	13891	39.0	34.0	44.2	16	1137	3.2	1.9	5.4
Some College	77	6138	24.1	19.1	29.8	12	805	3.2	1.7	5.8
College+	53	4428	13.5	10.1	17.8	11	999	3.0	1.6	5.6
Marital Status										
Married	207	16610	22.0	19.2	25.1	30	2375	3.2	2.1	4.6
Other	205	19017	47.2	41.9	52.6	25	1728	4.3	2.7	6.7

2002 MI PRAMS

DSU: Data Statistically Unreliable

Table 27b:
Prevalence of breastfeeding duration by maternal demographic characteristics,
2002 MI PRAMS

	Breastfed for >1 week, but concluded					Breastfeeding when surveyed				
	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1546	37672	100.0			1546	38281	100.0		
Age										
<18 yrs	18	1479	34.5	20.8	51.7	4	DSU	DSU	DSU	DSU
18-19 yrs	29	2188	27.4	18.5	38.7	8	753	9.5	4.4	19.1
20-24 yrs	131	9566	30.7	42.5	53.0	66	5464	20.8	16.2	26.3
25-29 yrs	141	11494	34.1	29.1	39.6	144	12293	36.5	31.4	42.0
30-34 yrs	112	8901	30.5	25.5	36.1	158	12649	43.4	37.8	49.1
35-39 yrs	48	3831	27.9	20.9	35.9	74	6742	48.9	40.6	57.3
40+ yrs	6	335	25.3	10.1	50.7	7	404	30.5	13.5	55.4
Race/Ethnicity										
White, Non-Hispanic	366	27925	32.1	29.1	35.3	373	30781	35.4	32.2	38.6
Black, Non-Hispanic	73	5980	31.9	25.0	39.7	48	4253	22.7	16.9	27.8
Hispanic	27	2597	42.7	30.0	56.4	16	1743	28.7	17.8	42.7
Asian/PI	11	1005	38.1	21.6	58.1	16	1276	48.4	29.8	67.5
American Indian	0	-	-	-	-	1	DSU	DSU	DSU	DSU
Education										
<HS	62	4964	25.2	19.2	32.4	31	3227	16.4	11.4	23.1
HS/GED	177	13918	39.0	34.1	44.2	81	6721	18.8	15.1	23.2
Some College	127	9943	39.0	33.1	45.2	115	8639	33.8	28.3	39.9
College+	113	8451	25.8	21.3	30.8	223	18928	57.1	52.2	63.0
Marital Status										
Married	315	24264	32.2	29.0	35.6	387	32128	42.6	39.1	46.2
Other	169	13408	33.3	28.5	38.5	69	6153	15.3	11.9	19.5

2002 MI PRAMS

DSU: Data Statistically Unreliable

Table 28:
Average breastfeeding duration, in weeks, among women who breastfed for longer than 1 week, but had discontinued before being surveyed,
2002 MI PRAMS

	Breastfed for >1 week, but concluded				
	Sample Frequency (n)	**Weighted Frequency (N)**	**Average (weeks)**	**LCI**	**UCI**
Total	485	37795	7.8	7.2	8.4
Age					
<18 yrs	18	1479	6.5	4.3	8.8
18-19 yrs	29	2188	7.4	4.9	9.9
20-24 yrs	131	9566	6.6	5.7	7.6
25-29 yrs	141	11494	8.1	7.0	9.3
30-34 yrs	112	8901	8.5	7.2	9.9
35-39 yrs	48	3831	8.6	6.7	10.4
40+ yrs	6	335	6.6	5.1	8.1
Race/Ethnicity					
White, Non-Hispanic	366	27925	7.7	7.0	8.3
Black, Non-Hispanic	73	5980	7.2	5.5	8.9
Hispanic	27	2597	8.1	6.0	10.2
Asian/PI	11	1005	13.1	8.0	18.1
American Indian	0	-	-	-	-
Education					
<HS	62	4964	7.7	5.9	9.5
HS/GED	177	13918	6.9	6.0	7.7
Some College	127	9943	7.7	6.5	8.8
College+	113	8451	9.4	7.9	10.8
Marital Status					
Married	315	24264	8.0	7.3	8.7
Other	169	13408	7.2	6.1	8.2

2002 MI PRAMS

Table 29:
Barriers to breastfeeding initiation among women who did not breastfeed,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Barriers					
Did not like breastfeeding	181	16299	41.1	36.1	46.4
Other	152	12218	30.8	26.3	35.8
Other children to care for	131	10969	27.7	23.3	32.5
Had to return to work/school	116	10818	27.3	22.8	32.3
Too many household duties	72	6074	15.3	12.0	19.5
Mother wanted body back	61	5435	13.7	10.5	17.8
Mother did not want to be tied down	50	4644	11.7	8.7	15.6
Too embarrassed to breastfeed	47	4169	10.5	7.7	10.5
Husband/partner discouraged breastfeeding	17	1908	4.8	2.9	8.0

2002 MI PRAMS

Table 30:
Barriers to breastfeeding continuation among women who had discontinued breastfeeding before being surveyed,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Barriers					
Breastmilk did not satisfy infant	181	15017	32.5	28.3	36.9
Thought was not producing enough milk	192	14670	31.7	27.6	36.2
Had to return to work/school	138	11568	25.0	21.2	29.3
Infant had difficulty nursing	165	11271	24.4	20.7	28.5
Other	141	10596	22.9	19.2	27.1
Nipples became sore, cracked, or bleeding	110	8928	19.3	15.8	23.3
Felt it was time to discontinue	93	7656	16.6	13.4	20.3
Needed another person to feed the infant	80	6288	13.6	10.7	17.1
Too many household duties	84	5838	12.6	9.9	16.0
Mother became sick and could not nurse	39	3674	8.0	5.7	11.0
Thought infant was not gaining enough weight	37	3094	6.7	4.7	9.5
Infant became sick and could not nurse	23	1800	3.9	2.4	6.3
Husband/partner discouraged breastfeeding	12	1064	2.3	1.3	4.1

2002 MI PRAMS

Table 31:
Smoking status during pregnancy (compared with pre-pregnancy smoking),
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1508	122556	100.0		
Smoking Status					
Nonsmoker	1072	87216	71.2	68.5	73.2
Smoker who quit	166	14084	11.5	9.8	13.5
Smoker (reduced # of cigarettes)	190	14730	12.0	10.3	14.0
Smoker (same # of cigarettes)	80	6526	5.3	4.1	6.8

2002 MI PRAMS

Table 32:
Smoking status in the last three months of pregnancy,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1519	123571	100.0		
Smoking Status					
Smoked	272	21466	17.4	15.3	19.7
Did not smoke	1247	102105	82.6	80.3	84.7

2002 MI PRAMS

Table 33:
Smoking status in the last three months of pregnancy by maternal demographic characteristics, 2002 MI PRAMS

	Did not smoke					Smoked				
	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1247	102105	82.6	80.3	84.7	272	21465	17.4	15.3	19.7
Age										
<18 yrs	47	3824	81.4	65.6	90.9	9	875	18.6	15.3	19.7
18-19 yrs	49	4676	56.3	44.1	65.7	39	3634	43.7	9.1	34.4
20-24 yrs	261	21571	74.7	69.2	79.6	93	7300	25.3	32.3	55.9
25-29 yrs	364	30461	88.0	84.0	91.1	57	4160	12.0	8.9	16.0
30-34 yrs	349	27356	89.8	85.9	92.7	42	3121	10.2	7.3	14.1
35-39 yrs	151	12660	85.7	79.2	90.4	26	2110	14.3	9.6	20.8
40+ yrs	26	1557	85.4	65.9	94.7	6	265	14.6	5.3	34.1
Race/Ethnicity										
White, Non-Hispanic	912	73453	80.4	77.6	82.9	224	197934	19.6	15.3	19.7
Black, Non-Hispanic	216	18375	87.3	81.5	91.5	33	2668	12.7	17.1	22.4
Hispanic	69	6328	95.7	87.6	98.6	3	DSU	DSU	DSU	DSU
Asian/PI	29	2298	91.7	75.2	97.6	3	DSU	DSU	DSU	DSU
American Indian	5	395	82.2	35.2	97.5	1	DSU	DSU	DSU	DSU
Education										
<HS	156	14654	68.0	60.8	74.5	79	21202	32.0	25.5	39.2
HS/GED	343	28212	74.1	69.4	78.2	132	9871	25.9	21.8	30.6
Some College	317	24148	87.1	82.4	90.6	48	3593	13.0	9.4	17.6
College+	410	32570	97.5	94.8	98.8	9	847	2.5	1.2	5.2
Medicaid Status										
Medicaid Ever	404	34649	69.4	64.9	73.4	192	15313	30.7	26.6	35.1
Medicaid Never	840	67170	91.8	89.5	93.6	78	6011	8.2	6.4	10.5

2002 MI PRAMS

DSU: Data Statistically Unreliable

Table 34:
Infant birth weight by maternal smoking status in the last three months of pregnancy,
2002 MI PRAMS

	Low Birthweight					Normal Birthweight				
	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	370	8610	7.0	6.5	7.5	1149	114961	93.0	92.5	93.5
Smoking Status										
Did not Smoke	287	6589	6.5	5.9	7.1	960	95516	93.6	93.0	94.1
Smoked	83	2021	9.4	7.5	11.7	189	19445	90.6	88.3	92.5

2002 MI PRAMS

Table 35:
Smoking status in the postpartum period
(compared with pre-pregnancy smoking),
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1503	123152	100		
Smoking Status					
Nonsmoker	1064	87216	70.9	68.1	73.4
Smoker who quit	97	14084	6.3	5.1	7.9
Smoker (reduced # of cigarettes)	123	14730	8.0	6.6	9.7
Smoker (same # of cigarettes)	212	6526	14.3	12.4	16.6
Nonsmoker who began smoking	7	596	0.5	0.2	1.1

2002 MI PRAMS

Table 36:
Smoking status in the postpartum period
(compared with pregnancy smoking),
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1513	122982	100.0		
Smoking Status					
Nonsmoker	1151	93554	76.1	73.5	78.5
Smoker who quit	13	878	0.7	0.4	1.3
Smoker (reduced # of cigarettes)	21	1679	1.4	0.8	2.3
Smoker (same # of cigarettes)	233	18502	15.0	13.1	17.5
Nonsmoker who began smoking	95	8369	6.8	5.5	8.4

2002 MI PRAMS

Table 37:
Alcohol consumption during pregnancy
(compared with pre-pregnancy drinking),
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1494	120853	100.0		
Alcohol Consumption					
Nondrinker	653	52184	43.2	40.3	46.1
Drinker who quit	776	63290	52.4	49.5	55.3
Drinker (reduced # of drinks)	33	2838	2.4	1.6	3.4
Drinker (# of drinks same or more)	31	2488	2.1	1.4	3.0
Nondrinker who began drinking	1	DSU	DSU	DSU	DSU

2002 MI PRAMS

Table 38:
Prevalence of infant sleep position,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1420	117386	100.0		
Sleep Position					
Supine/Back	1015	83327	71.0	68.2	73.6
Prone/Stomach	206	17572	15.0	13.0	17.2
Side	199	16487	14.1	12.1	16.3

2002 MI PRAMS

Table 39a:
Prevalence of infant sleep position by maternal demographic characteristics,
2002 MI PRAMS

	Supine/Back					Side				
	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1015	83327	71.0			199	17277	14.1		
Age										
<18 yrs	25	2446	56.2	39.6	71.5	16	1039	23.9	13.0	39.7
18-19 yrs	58	5317	66.3	53.8	76.9	13	1398	17.4	9.8	29.1
20-24 yrs	234	18929	70.2	64.2	75.6	54	4688	17.4	13.1	22.8
25-29 yrs	289	24282	71.9	66.7	76.6	51	4164	12.3	9.1	16.5
30-34 yrs	277	22001	75.8	70.5	80.3	39	2994	10.3	7.3	14.3
35-39 yrs	113	9456	68.3	59.9	75.6	22	2994	13.6	8.9	20.4
40+ yrs	19	897	63.5	39.3	82.3	4	DSU	DSU	DSU	DSU
Race/Ethnicity										
White, Non-Hispanic	807	65192	73.8	70.8	76.6	130	10637	12.0	10.0	14.4
Black, Non-Hispanic	118	10384	55.9	47.9	63.6	46	3739	20.1	14.5	27.3
Hispanic	44	4179	72.0	57.8	82.8	13	1313	22.6	12.7	36.9
Asian/PI	23	1910	75.2	54.3	88.6	7	609	24.0	10.8	45.1
American Indian	5	427	71.4	32.6	92.8	2	DSU	DSU	DSU	DSU
Education										
<HS	137	12631	64.7	57.2	72.0	50	4334	22.3	16.6	29.3
HS/GED	299	24259	67.3	62.3	72.0	72	5666	15.7	12.3	20.0
Some College	234	17991	68.7	62.7	74.1	41	3160	12.1	8.5	16.8
College+	325	26255	79.4	74.6	83.5	34	3022	9.1	6.4	12.9
Medicaid Status										
Medicaid Ever	352	29790	63.4	60.6	69.8	110	975	19.5	15.9	23.6
Medicaid Never	663	53537	74.8	71.5	77.9	88	861	10.4	8.3	12.9

2002 MI PRAMS

DSU: Data Statistically Unreliable

Table 39b:
Prevalence of infant sleep position by maternal demographic characteristics, 2002 MI PRAMS

	Prone/Stomach				
	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	206	17371	15.0		
Age					
<18 yrs	8	868	19.9	9.8	36.3
18-19 yrs	13	1304	16.3	9.1	27.4
20-24 yrs	40	3335	12.4	8.9	17.0
25-29 yrs	64	5311	15.7	12.1	20.2
30-34 yrs	51	4044	13.9	10.4	18.4
35-39 yrs	27	2509	18.1	12.4	25.7
40+ yrs	3	DSU	DSU	DSU	DSU
Race/Ethnicity					
White, Non-Hispanic	145	12499	14.2	12.0	16.7
Black, Non-Hispanic	51	4463	24.0	17.9	31.5
Hispanic	5	314	5.4	1.9	14.3
Asian/PI	1	DSU	DSU	DSU	DSU
American Indian	2	DSU	DSU	DSU	DSU
Education					
<HS	21	2479	12.8	8.2	19.3
HS/GED	73	6098	16.9	13.4	21.2
Some College	67	5052	19.3	14.9	24.5
College+	44	3786	11.5	8.4	15.5
Medicaid Status					
Medicaid Ever	78	6928	15.2	12.0	19.0
Medicaid Never	127	10559	14.8	12.3	17.6

2002 MI PRAMS

DSU: Data Statistically Unreliable

Table #40:
Prevalence of infant bed sharing,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1546	125739	100.0		
Co-Sleeping					
Always/Almost Always Bed Shares	328	26791	21.3	19.0	23.8
Sometimes Bed Shares	296	24824	19.7	17.6	22.1
Rarely/Never Bed Shares	923	74125	59.0	56.1	61.7

2002 MI PRAMS

Table 41a:
Prevalence of infant bed sharing by maternal demographic characteristics,
2002 MI PRAMS

	Always/Almost Always					Sometimes				
	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	328	26790	21.3			295	24824	19.7		
Age										
<18 yrs	22	1560	32.4	19.9	48.0	14	1348	28.0	16.1	44.1
18-19 yrs	33	3492	41.4	30.2	53.6	22	1783	21.4	13.3	32.0
20-24 yrs	79	6738	22.9	18.1	28.4	66	5694	19.3	14.9	24.6
25-29 yrs	74	5910	16.8	13.1	21.2	88	7529	21.3	17.2	26.1
30-34 yrs	70	5414	17.4	13.6	22.1	69	5684	18.4	14.4	23.1
35-39 yrs	38	3068	20.7	3.3	14.8	32	2580	17.3	12.0	24.3
40+ yrs	12	608	32.9	9.3	17.6	4	206	DSU	DSU	DSU
Race/Ethnicity										
White, Non-Hispanic	168	12781	13.8	11.7	16.2	212	18561	20.0	17.5	22.8
Black, Non-Hispanic	120	10621	49.7	42.4	57.1	56	3955	18.5	13.7	24.5
Hispanic	21	1689	25.2	16.1	37.2	12	1127	16.8	9.5	28.0
Asian/PI	12	1215	43.7	26.1	63.0	10	793	28.5	14.4	48.7
American Indian	2	DSU	DSU	DSU	DSU	0	DSU	DSU	DSU	DSU
Education										
<HS	87	7867	36.0	29.1	43.3	39	3638	16.7	11.9	22.8
HS/GED	101	8054	20.7	16.9	25.2	86	7344	18.9	15.2	23.2
Some College	67	4748	16.9	13.0	21.7	74	6055	21.6	17.0	26.9
College+	67	5580	16.4	12.7	20.8	87	6675	19.6	15.7	24.1
Insurance Status										
Medicaid Ever	352	29790	63.4	60.6	69.8	110	975	19.5	15.9	23.6
Medicaid Never	663	53537	74.8	71.5	77.9	88	861	10.4	8.3	12.9

2002 MI PRAMS

DSU: Data Statistically Unreliable

Table 41b:
Prevalence of infant bed sharing by maternal demographic characteristics,
2002 MI PRAMS

	Rarely/Never				
	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	923	74124	59.0		
Age					
<18 yrs	21	1909	39.6	25.5	55.8
18-19 yrs	35	3155	37.4	26.7	49.5
20-24 yrs	217	17048	57.8	51.8	63.6
25-29 yrs	266	21848	61.9	56.5	67.0
30-34 yrs	259	19883	64.2	58.7	69.3
35-39 yrs	108	9246	62.1	54.0	69.6
40+ yrs	17	1035	56.0	36.4	73.9
Race/Ethnicity					
White, Non-Hispanic	773	61367	66.2	63.0	69.2
Black, Non-Hispanic	78	6794	31.8	25.3	39.1
Hispanic	40	3891	58.0	45.3	69.8
Asian/PI	12	773	27.8	14.7	46.2
American Indian	5	427	71.4	32.6	92.8
Education					
<HS	114	10338	47.3	40.1	54.7
HS/GED	300	23464	60.4	55.3	65.2
Some College	228	17292	61.6	55.7	67.1
College+	270	21869	64.1	58.8	69.1
Insurance Status					
Medicaid Ever	78	6928	15.2	12.0	19.0
Medicaid Never	127	10559	14.8	12.3	17.6

2002 MI PRAMS

DSU: Data Statistically Unreliable

Table 42:
Prevalence of physical abuse prior to pregnancy,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1541	125229			
Physically Abused					
Not Abused	1448	117125	93.5	91.9	94.9
Abused	93	8104	6.5	5.1	8.1

2002 MI PRAMS

Table 43:
Person inflicting abuse among women abused prior to pregnancy,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	93	8104	100.0		
Abuser					
Abused by husband/partner	73	6152	75.9	15.1	84.9
Abused by someone else	20	1952	24.1	15.1	36.1

2002 MI PRAMS

Table 44:
Prevalence of physical abuse during pregnancy,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1543	125528	100.0		
Physically Abused					
Not Abused	1461	118269	94.2	92.6	95.5
Abused	82	7259	5.8	4.5	7.4

2002 MI PRAMS

Table 45:
Person inflicting abuse among women abused during pregnancy,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	82	7259	100.0		
Abuser					
Abused by husband/partner	62	5311	73.2	60.5	82.9
Abused by someone else	20	1947	26.8	17.1	82.9

2002 MI PRAMS

Table 46:
Prevalence of verbal abuse in the year prior to delivery,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1530	124956	100.0		
Verbally Abused					
Not Verbally Abused	1441	117674	94.2	92.6	95.4
Verbally Abused	89	7281	5.8	4.6	7.4

2002 MI PRAMS

Table 47:
Prevalence of women hearing or reading about folic acid and its benefits,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1452	117867			
Heard/read about folic acid					
Yes	1159	23429	80.1	77.6	82.4
No	293	94439	19.9	17.6	82.4

2002 MI PRAMS

Table 48:
Prevalence of women instructed, by a health care professional on the appropriate amount of folic acid to consume,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1453	118319	100.0		
Instructed by healthcare professional					
Yes	938	76069	64.3	61.4	67.1
No	515	42249	35.7	32.9	38.6

2002 MI PRAMS

Table 49:
Prevalence of multivitamin consumption in the month prior to pregnancy,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1540	125539	100.0		
Multivitamin Consumption					
No multivitamin	809	67305	53.6	50.8	56.4
1-3 times per week	179	14232	11.3	9.7	13.3
4-6 times per week	89	6873	5.5	4.3	6.9
Daily	463	37130	29.6	27.1	32.2

2002 MI PRAMS

Table 50:
Prevalence of folic acid awareness and/or instruction by a health care professional,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	1410	114356	100.0		
Awareness of folic acid / Instructed by heathcare professional					
Aware and Instructed	851	69194	60.5	57.6	60.5
Aware, but not instructed	280	23056	20.2	17.9	22.7
Instructed, but not aware	64	4899	4.3	3.2	5.7
Neither instructed or aware	215	17207	15.1	13.0	17.3

2002 MI PRAMS

Table 51a:
Multivitamin consumption in the month prior to pregnancy by folic acid awareness and/or instruction by a healthcare professional,
2002 MI PRAMS

	No multivitamin					1-3 times per week				
	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	715	59215	51.8	48.9	54.8	168	13242	11.6	9.8	13.6
Awareness of folic acid / Instructed by heathcare professional										
Aware and Instructed	349	29889	43.3	39.5	47.1	102	8297	12.0	9.7	14.8
Aware, but not instructed	160	13097	56.8	50.2	63.2	39	3030	13.1	9.3	18.2
Instructed, but not aware	41	3317	67.7	53.4	79.4	8	504	10.3	4.6	21.5
Neither instructed or aware	165	12911	75.0	67.6	81.2	19	1412	8.2	4.9	13.5

2002 MI PRAMS

DSU: Data Statistically Unreliable

Table 51b:
Multivitamin consumption in the month prior to pregnancy by folic acid awareness and/or instruction by a healthcare professional,
2002 MI PRAMS

	4-6 times per week					Daily				
	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI	Sample Frequency (N)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	83	6460	5.7	4.5	7.2	441	35316	30.9	28.3	33.7
Awareness of folic acid / Instructed by heathcare professional										
Aware and Instructed	62	4554	6.6	5.0	8.7	335	26330	38.1	34.5	41.9
Aware, but not instructed	12	1018	4.4	2.4	8.0	69	5912	25.6	20.3	31.8
Instructed, but not aware	2	DSU	DSU	DSU	DSU	13	870	17.8	9.3	31.2
Neither instructed or aware	7	680	4.0	1.7	8.9	24	2205	12.8	8.3	19.2

2002 MI PRAMS

DSU: Data Statistically Unreliable

Table 52:
Prevalence of WIC participation during pregnancy among income eligible women,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total*	623	51593	100.0		
WIC Participation During Pregnancy					
Yes	479	38573	74.8	70.5	78.6
No	144	13020	25.2	21.4	29.5

2002 MI PRAMS

Total = Number of women found to be income eligible for WIC. Women who participated in Medicaid prior to pregnancy, had Medicaid-paid prenatal care, Medicaid-paid delivery, or received federeal income asisstance were classified as being income eligible for WIC.

Table 53:
Prevalence of WIC participation postpartum among income eligible women,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Total	612	50386	100.0		
WIC Participation Postpartum					
Infant only	168	14628	29.0	24.9	33.5
Mother and Infant	359	28765	57.1	52.4	61.6
Mother only	1	DSU	DSU	DSU	DSU
Neither	84	6993	13.9	11.0	17.4

2002 MI PRAMS

Total = Number of women found to be income eligible for WIC. Women who participated in Medicaid prior to pregnancy, had Medicaid-paid prenatal care, Medicaid-paid delivery, or received federeal income asisstance were classified as being income eligible for WIC.

Table #54:
Reason for nonparticipation among income eligible women, whose infant did not participate in WIC,
2002 MI PRAMS

	Sample Frequency (n)	Weighted Frequency (N)	Weighted Percent	LCI	UCI
Reasons					
Did not want to enroll infant	27	2130	34.5	23.8	47.0
Other	24	1591	25.7	16.4	38.0
Unaware of WIC	13	1016	16.4	9.2	27.6
Infant not eligible	12	8998	14.5	7.6	26.0

2002 MI PRAMS

Analysis restricted to women who were found to be income eligible for WIC and whose infant did not participate in WIC. Women who participated in Medicaid prior to pregnancy, had Medicaid-paid prenatal care, Medicaid-paid delivery, or received federal income assistance were classified as being income eligible for WIC.